UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

AN EXAMINATION OF INTERNATIONAL CRISES: THE EFFECT OF DECISION MAKER STRESS ON CRISIS MANAGEMENT, ATTRIBUTES, AND OUTCOMES IN NON-PROTRACTED CONFLICT AND PROTRACTED CONFLICT CRISES

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

Doctor of Philosophy

BY

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Norman, Oklahoma
2007

UMI Number: 3254416

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A DISSERTATION APPROVED FOR
THE GRADUATE COLLEGE

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Acknowledgements

This dissertation would not have been possible without the assistance, support, encouragement, friendship, and love of many people. I want to thank my fantastic chair, Dr. Kelly Damphousse. Your guidance throughout this process has been invaluable. I also want to recognize the rest of my committee, Drs. Hope, Judice-Campbell, Nash, and Rodgers. I could not have picked a better committee for this project.

This dissertation and degree would never have happened without my wonderful parents, Howard and Sue Cowan. I cannot put into words the gratitude I have for your love and support throughout my education. From the time you dropped me off at Penland Dormitory in Waco to celebrating this PhD, you are the reason that I have succeeded in my various education experiences. This dissertation is a reflection of your influence in my life. Recognition also goes to the world's best in-laws, Carl and Kenna Gene Bennett. Your encouragement and support throughout the past four years has meant more than you can ever imagine. I am thrilled that you can celebrate this achievement with me.

Recognizing that others have been trail blazers before me, I want to thank Cohort III of the Organizational Leadership program. Our class times together are some of the fondest memories I have in my educational career. In particular, I want to thank my dear friends Krista Dana, Dave Harris, Elizabeth Freeland, and Joy Magowan. Your love, encouragement, and support helped me survive and thrive in the rigors of this PhD program.

None of my success would have been possible without the support of my former supervisor at the Rhein-Main Air Base Family Support Center, Mrs. Judy Maughan. If you had not allowed me the time to pursue this degree, I would not have the opportunities that I now have as a result of this dissertation.

And of course, I must recognize the most wonderful and supportive spouse known to man. Teresa, you have been by my side every step of the way in this program. Your love, patience, and encouragement have motivated and strengthened me. I know it hasn't always been a smooth and easy ride over the past four years. I also know that it has all been worth it, and I hope and pray that this degree will help our dreams come true!

And finally, I must thank and acknowledge God, the One from whom all blessings flow. I can do all things through Christ who strengthens me, and this dissertation is definitely a testimony to that promise. It is my desire that my life and work reflect the love and goodness of our Heavenly Father.

"Blessed are the peacemakers: for they shall be called the children of God." Matthew 5:9 (King James Version)

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Abstract

In the field of foreign policy analysis, there is a long history of research examining factors that impact decision making in conflicts, wars, and crises. The following research project is an attempt to add to this body of knowledge. This dissertation research examined factors affecting leaders' decision making during international crises. Specifically, a statistical analysis was conducted to examine information from the International Crisis Behavior Project, which contains data regarding international crises from 1918 to 2003. The key variable examined was decision maker stress. Statistical analyses were performed in order to determine the relationship between decision maker stress and various crises attributes and outcomes related to decision making. The crisis attributes and outcomes examined included: amount of time between crisis trigger and crisis response, the size of the decision making unit in a crisis, the type of crisis management response, the likelihood of definitive outcomes, and the tension level among crisis actors following a crisis. The statistical analysis was conducted separately on non-protracted conflict crises and protracted conflict crises. Results indicate that increases in decision maker stress do impact crises, and stress impacts crises differently in protracted conflict and non-protracted conflict crises. Following these analyses, there is a discussion of these results, including examples from various international crises, lessons to be learned, and areas of future study.

Chapter 1

Introduction

Although the new millennium is still in its infancy, one of the lessons that recent history has taught us is that crises will occur, and when they do, the effects and aftershocks can spread quickly around the globe. With global communication and transportation, borders become practically meaningless during a crisis. With this scene as the backdrop, much can be learned about the management of crisis situations, particularly at the international level. Areas of interest among researchers are leadership and how leaders' behaviors and actions impact a crisis. I am specifically interested in the decision making process of leaders and organizations during crises. By examining what factors influence the decisions leaders make and how those decisions are made, the hope is that scholars and practitioners of international crisis management can better understand the dynamics involved in decision making and learn how to more effectively manage international crises.

For my dissertation research, I examined crisis management during international, inter-state, foreign policy crises. In addition, I divided these crises into two separate groups to conduct parallel lines of research. The two groups were non-protracted conflict crises and protracted conflict crises.

I was particularly interested in discovering which factors are influential and important to the decision making process. Investigations of factors impacting foreign policy decision making occupy large portions of the international relations literature. It is important to understand some of the critical viewpoints found in the literature, both currently and historically. There are two schools of thought within the literature, both of

which I discuss in more depth in the pages that follow. However, as a brief introduction, a summary of these schools of thought is warranted. One side argues that external factors, mainly the power balance/imbalance between different countries, are the primary causal factors behind decision making. These factors can be grouped under the term "realism." The opposing school of thought claims that internal, domestic factors within a country are the most influential factors in decision making. These factors can be grouped under the umbrella term "innenpolitik." In much of the literature, this debate is viewed as a rational versus cognitive debate, with external factors falling under the rational view and the internal factors falling under the cognitive view, which is also referred to as the psychological view by some authors. In fact, many writers operate under the assumption that internal equals cognitive and external equals rational; the terms are often used interchangeably. So in order to understand the external versus internal debate, one needs to also understand the rational versus cognitive debate.

With any scholarly research, there is the critical question, "So what?" What did I hope to achieve through my dissertation research? By examining factors impacting international crisis management, my desire was to shed light on these issues and provide a contribution to the body of knowledge of foreign policy decision making during international crises.

One might ask whether there is even scholastic value in studying international crisis decision making when one could just focus on decision making in general. According to Haas (1986), "Research on international crisis is based on one basic assumption. The assumption is that crisis decisionmaking is fundamentally different from noncrisis decisionmaking" (p. 24). So this assumption that crisis decision making is

a unique type of decision making consequently leads us to assume that by exclusively studying international crisis decision making, we can find unique and useful information that can be applied to real world foreign policy situations.

The source of data for this research project was the International Crisis Behavior Project (ICBP). The extensiveness of the ICBP data set allows researchers to examine a variety of topics related to international crises, such as factors impacting decision making. I discuss the ICBP and its data set in more detail in the pages to follow.

Research Questions

When one studies international crises, a multitude of questions comes to mind. How do leaders make decisions in the midst of a crisis? What causes leaders to choose or reject a path of violence or non-violence when responding to crises involving other countries? Why do some leaders chose military responses, but others choose diplomatic responses? Why do some countries choose negotiation as a crisis management technique while others choose mediation and still others choose violence? Are leaders more concerned about how a crisis affects the domestic situation within their countries or about their countries' relative positions within the global community? These are just a few of the many questions that could be asked about international crises. If we can understand the decision making process of leaders, then it might be possible to answer these and other such questions.

These general, almost rhetorical, questions lead to some specific research questions. Particular emphasis can be given to what factors play an influential role in the decision making process. When considering the range of available choices, what factors

influence the decision making process? Specifically, what impact does decision maker stress have on crisis decision making, and how does stress, through the decision making process, impact the attributes and outcomes of international crises? Furthermore, what role does the conflict setting play in international crises? Does stress impact crises differently based on whether the crisis takes place in a protracted or non-protracted conflict? These are no easy questions to answer. My dissertation research is an attempt to shed light on these important areas.

It is important to realize that this is not just an esoteric, academic debate that takes place among scholars. How people make decisions is critical to policy makers, advisors, and leaders around the world. United States Secretary of State Condoleezza Rice discussed this very issue in an address at Georgetown University's School of Foreign Service. Secretary Rice (2006) stated:

> We are living in an extraordinary time, one in which centuries of international precedent are being overturned … The greatest threats now emerge more within states than between them. The fundamental character of regimes now matters more than the international distribution of power. (http://www.state.gov/secretary/rm/2006/59306.htm)

Secretary Rice's statement directly relates to this debate. Which is more critical in understanding the actions of world leaders, the international distribution to power or the internal situation within a country? Secretary Rice clearly supports the latter.

Or consider an editorial in *The New York Times* regarding the on-going tensions surrounding Iran, Iranian President Mahmoud Ahmadinejad, and his country's nuclear research programs. Zahedi and Memarian (2006) claimed:

> Mr. Ahmadinejad is surely motivated by ideology and the desire to solidify the position of the security faction within Iran's ruling elite. But he also appears to be acting on the perception that the United States is in a position of considerable, indeed unprecedented, weakness. America's military is overstretched in Iraq and

> Afghanistan, and Washington has focused on monitoring North Korea's nuclear program rather than Iran's. If threatened, Iran could wreak havoc in Afghanistan, Iraq, Lebanon and Israel. These observations may lead Mr. Ahmadinejad to an incorrect assessment of Iran's strength relative to any American threat. (p. 31)

According to the authors of this editorial, President Ahmadinejad's actions are, at least in part, being guided by Iran's internal political situation. On the other hand, it could be argued that his analysis of international power relations is also guiding his choices. As this example illustrates, the internal/external framework can be used to analyze current and complex real-world international crises. This issue is very much at the forefront of diplomacy and international relations in countries throughout the world.

Definitions

As with any research project, it is important to understand the terminology and language used in this dissertation. A brief skimming of the applicable literature exposes readers to terms such as war, conflict, and crisis. These terms are interrelated and share many common characteristics. Research findings pertaining directly to war, for example, may be applicable to the study of crises as well. But it is also important to realize that these terms are not synonymous. As such, it is critical to understand exactly what I studied in this research project. My examination focused solely on crises occurring within and between recognized nation-states. And while there is a certain element of conflict surrounding any crisis between nations, not all crises are part of long-term, ongoing conflicts, which we call protracted conflicts. Conflicts between countries, whether relatively short or long in terms of length of time, might be punctuated periodically by crises, but the crises themselves are viewed as a separate phenomenon from the conflicts. And though many crises do occur in the midst of wars, they are not

one and the same. There is much wartime activity between nations that would not be empirically considered a crisis, and there are many crises that occur completely outside of wars.

So what is a crisis? In terms of etymology, the word itself comes directly from Latin and has a Greek root, *krinein*, related to the verb "to decide" or "to separate" (Haas, 1986; Hermann, 1969). The term was used as early as the 1500s as a medical term to describe "someone with a high fever who may be on the verge of a sudden increase or decrease in body temperature … [or someone suffering from] an acute attack, such as the onset of appendicitis" (Haas, 1986, p. 25). Dictionaries often refer to crises as turning points. In Chinese, the term translated as crisis is the juxtaposition of two characters, danger and opportunity. "The element 'danger,' in turn, implies a threat of death by violence; 'opportunity' means that there is a very complex problem but that a solution is nonetheless possible" (Haas, 1986, p. 26). So a crisis, in general, is a specific and inherently unstable time or situation in which critically important decisions must be made and/or actions must be taken.

Within the literature pertaining to this research project in particular, the terms international crisis and foreign policy crisis are used somewhat interchangeably. For working definitions, I use those provided by Brecher and Wilkenfeld (2003). These authors, the primary authors and researchers of the International Crisis Behavior Project (ICBP), have similar and related, albeit separate, definitions for international crises and foreign policy crises. The difference between the definitions is due to a different level of analysis within their research project. A foreign policy crisis is "a crisis for an individual state" (Brecher & Wilkenfeld, 2003, p. 3), while an international crisis is more of an

examination of the system in which the foreign policy crisis occurs. Foreign policy crises relate to the micro or actor level, and international crises relate to the macro or system level.

Foreign Policy Crisis

Foreign policy crises are situations in which three necessary and sufficient conditions exist. These conditions are perceptions held by the highest level decision makers within the state, and they are "a threat to one or more basic values, along with an awareness of finite time for response to the value threat, and a heightened probability of involvement in military hostilities" (Brecher & Wilkenfeld, 2003, p. 3). This is the basic definition used in the ICBP to determine what constitutes a crisis.

International Crisis

For international crises, there are two defining conditions. First, there must be "a change in type and/or an increase in intensity of disruptive, that is hostile verbal or physical, interactions between two or more states, with a heightened probability of military hostilities" (pp. 4-5). This, in turn, "destabilizes their relationship and challenges the structure of an international system – global, dominant, or subsystem" (p. 5).

Protracted Conflict

Another important definition is that of protracted conflict. I used the same definition as Brecher and Wilkenfeld, which comes from the work of Azar, Jureidini, and McLaurin (1978). Protracted conflicts are "hostile interactions which extend over long periods of time with sporadic outbreaks of open warfare fluctuating in frequency and intensity" (p. 50).

Research Design Overview

The data for this research project came from the International Crisis Behavior Project (ICBP). The ICBP website contains general information about the project and a data viewer with summaries of each international crisis, as well as information on some of the key aspects and variables of each crisis. The full data set and codebooks are also available on the ICBP website in SPSS format.

According to the researchers, there are three assumptions underlying the ICBP:

> First, that the destabilizing effects of crisis, as of conflicts and wars, are dangerous to global security; second, that understanding the causes, evolution, actor behavior, outcomes, and consequences of crises is possible by systematic investigation; and third, that knowledge can facilitate the effective management of crises so as to minimize their adverse effects on world order. (Brecher & Wilkenfeld, 2003, p. 1)

With these assumptions as a foundation for the project, the researchers have four objectives (Brecher & Wilkenfeld, 2003). The first objective is to accumulate and spread knowledge about international crises. Another objective is to generate and test hypotheses, particularly those hypotheses that examine the impact of stress on coping and choices by leaders and decision makers in crises. A third objective is to discover patterns in key crisis dimensions. Finally, the ICBP wishes to apply the lessons learned from crises throughout recent history to further advance international peace.

As mentioned previously, the researchers of the ICBP proposed two levels of analysis for studying crises, that being at the individual state level (foreign policy crises) and at the system level (international crises). I conducted my research and analysis using foreign policy crises at the individual state level. I examined the relationships between decision maker stress and a variety of crises attributes and outcomes at the state or crisis actor level. The dependent variables examined were amount of time between crisis

trigger and crisis response, the size of the decision making unit in a crisis, the type of crisis management response, the likelihood of definitive outcomes, and the tension level among crisis actors following a crisis. The statistical method used to examine the relationships between these variables was regression analysis. I conducted the statistical analysis separately on non-protracted conflict crises and on protracted conflict crises in order to see what, if any, differences existed in the way stress impacted these variables in these two different crisis settings.

By its very nature, this is an inferential study. It is not possible to conduct true experiments with world leaders during international crises or for a doctoral student like myself to interview world leaders to study their decision making processes. In fact, some researchers commented that within the study of foreign policy, "the psychological domain is the most elusive and least amenable to systematic empirical analysis" (Wilkenfeld, Hopple, Rossa, & Andriole, 1980, pp. 42-43). But by examining the relationship between decision maker stress and various attributes and outcomes of crises, it is possible to reach sound conclusions regarding the impact of stress on international crises and then apply this knowledge to the field of international crisis management.

Chapter 2

Theory/Literature Review

As alluded to earlier, this research project's theoretical foundation centers on the ongoing and sometimes heated scholarly discussion regarding factors impacting foreign policy decision making. This debate can be framed and viewed in different ways and from different vantage points. The traditional political science view is that foreign policy decisions and actions can be analyzed based on the ideas of realism and innenpolitik mentioned earlier. This construct serves as the foundation for most other approaches, and, as such, it is critical to understand these different approaches. Realism, with its focus on external, international factors, and innenpolitik, with its focus on internal, domestic variables, led to another method of studying foreign policy decision making using the terminology of rational versus cognitive. The rational view of decision making is linked to the realism school of thought, while the cognitive or psychological view is tied to the innenpolitik school of thought. As can be seen, these viewpoints and this terminology are very much interwoven and related. At times, these terms are used interchangeably within the literature.

Even though I conducted this research from the cognitive vantage point by examining the effects of decision maker stress, it is still imperative to understand the different sides of this argument. It is not possible to fully appreciate and understand this research without both an examination of the opposing views and the recognition that it is possible to gain knowledge from both sides of this debate. However, this has not been the case with researchers and scholars in the past. In a book chapter written about the cognitive versus rational debate in foreign policy decision making, Stein & Welch (1997)

began with this poignant statement, "With few exceptions, those who study world affairs through the rational choice lens and those who do so through the psychological lens rarely enter into meaningful dialogue" (p. 51). Although my "dialogue" presented here might be limited, it is my hope that by understanding the different approaches to analyzing foreign policy decision making, particularly during a crisis, a better understanding of my research will be possible.

In comparison to other areas of social science/political science research, foreign policy research is a relatively young field. Less than 40 years ago, Brecher, Steinberg, and Stein (1969) stated, "The study of foreign policy is underdeveloped; its theoretical content is inadequate; and analysis for the most part lacks rigor" (p. 75). There is little doubt that progress has been made in the last several decades, but there are still many unanswered questions and unaddressed areas. In fact, in a 1999 presidential address to the International Studies Association, Brecher (1999) offered the following view of the current state of the field:

> The state of International Studies as the 20th century draws to a close is disconcerting. Among the shortcomings are intolerance of competing paradigms, models, methods, and findings; a close-minded mentality; a tendency to research fashions; the increasingly-visible retreat from science in International Studies; and the low value placed by most scholars on cumulation of knowledge. (p. 43)

Of the shortcomings mentioned above by Brecher, the "intolerance of competing paradigms, models, methods, and findings" (p. 43) is of particular interest given that the two primary schools of thought within foreign policy analysis often vehemently disagree with each other about the best way to study international relations. I begin by first discussing the classical approach to foreign policy analysis.

Realism and External/International Factors

The analysis of foreign policy decisions is usually conducted by examining which factors play a more critical role influencing foreign policy decisions. The factors typically examined can be divided into two categories: external/international factors and internal/domestic factors (Trubowitz, 2001). The category examining and emphasizing the external/international factors is generally referred to as realism or the realist school of thought. Historically, "'Realism,' which emphasizes a state's relative position in the international distribution of power, is usually regarded as the dominant approach to the study of foreign policy" (Trubowitz, 2001, p. 5737). What might be considered the classic description of realism is provided by Morgenthau and Thompson (1985), "International politics, like all politics, is a struggle for power. Whatever the ultimate aims of international politics, power is always the immediate aim … Statesmen think and act in terms of interest defined as power" (pp. 5, 31). The realist approach dismisses the importance of factors that might influence decision-making, as well as other state-level phenomena that could impact policy making (Hagan, 2001). A state's position within the international system and in relation to other states is considered the most critical factor in foreign policy decision making.

The classical school of realism, associated with scholars such as Morgenthau, E. H. Carr, and Nicholas Spykman, starts "from the assumption that states are influence-maximizers" (Trubowitz, 2001, p. 5737). This assumption that states are interested in maximizing influence or "global optimization" (Mintz, 1997, p. 2) places this approach to foreign policy on similar theoretical ground as the rational actor or rational choice theories to decision making. In fact, realism and rationalism may be viewed as two sides

of the same coin. The terms are used somewhat synonymously within literature and research related to foreign policy decision making.

The rational choice theories assume that decision makers are cognitively competent and have sufficient information to be able to judge costs, benefits and likely outcomes. Decision makers are then able to make an expected utility calculation based on evaluation of all possible courses of action. As mentioned above, the realists place an emphasis on a country's power, particularly its power relative to other countries on issues such as military, trade, wealth, and population. There is an assumption that leaders and decision makers can objectively calculate their countries' positions compared to other countries and determine which countries possess more power.

Research exists supporting the claim that international variables are indeed more important than domestic variables and that the realist approach is the correct theoretical approach to international relations and the study of decision making. Mintz (1997) stated that support for the rational actor approach is "widespread and comes from a variety of disciplines, each viewing the debate through its own (disciplinary) lens" (p. 2). DeRouen (2000) provided a review of literature on this topic. Examining U.S. conflicts from 1870-1992, Gowa (1998) found that "neither political-military cycles nor partisan politics have had any observable effect on U.S. recourse to force abroad" (p. 320). It was international variables that were the most important in decisions to use force. Oneal and Lian found that there is "little evidence that domestic politics play a role in decisions to use force" (DeRouen, 2000, p. 318). Meernik (1994) found that domestic considerations within the United States were not critical factors in decisions to use force during the period of 1948-1988.

Although the realist school has traditionally enjoyed widespread support, it has also endured its fair share of criticism. In critiquing the pioneering work of Morgenthau, the words of Brecher, Steinberg, and Stein (1969) leave little doubt as to their views:

> As a theory of state behavior … its metaphysical realism contains grave shortcomings. It lacks an adequate discussion of ends: a universal "national interest" is assumed without reference to reality and changing environmental conditions. It also ignores the relational quality of power as capability; indeed, it does not differentiate power as objective from power as means. (p. 76)

So according to these authors, Morgenthau's theory of state behavior and international relations was not adequate. Few scholars would probably challenge the view that the concept of power is important in understanding the behavior of countries and their leaders, but to use power as the sole theoretical construct is short-sighted and simplistic. According to Reiter (1996), "Realism fails to address one of the most important concerns of world politics – how states cope with uncertainty" (p. 11). In a critique of the realist school of thought, Partell (1997) claimed that the realist approach does not adequately consider the importance of domestic politics in shaping foreign policy. In his analysis using data and information from both the International Crisis Behavior Project and the Militarized Interstate Dispute data set, Partell (1997) found that domestic political structures better predict international conflict outcomes than a country's relative capability or resolve.

When examining the behaviors and actions of decision makers, "the rational paradigm tends to assume a 'deep, conscious, thoughtful' thinker" (Rosati, 2001, p. 51). But opponents to this school of thought believe most mental operations actually occur automatically and subconsciously. Simon (1985) stated that once "we take into account the limitations of knowledge and computing power of the choosing organism, then we

may find it incapable of making objectively optimal choices" (p. 294). But at the very foundation of the theory of objective rationality is the assumption that every person has the capability to consistently order alternative choices and then choose the alternative with the highest utility.

So what does research tell us about this foundational assumption? Experiments designed to study the theory of objective reality have generally shown that people do not possess consistent utility functions or probability assignments (Simon, 1985).

Researchers like Simon are not suggesting that all decision makers are irrational beings. In fact, Simon (1985) claimed:

> The actors in the political drama do appear to behave in a rational manner – they have reasons for what they do, and a clever researcher can usually obtain data that give good clues as to what those reasons are. But this is very different from claiming that we can predict the behavior of these rational actors by application of the objective rationality principle to the situations in which they find themselves. (p. 300)

According to Simon, rationalism cannot provide all of the answers in political analysis. He believed not only that modern cognitive theories of human behavior are the answer to better understanding decision makers, but also that cognitive theories might provide more sound and comprehensive theories of decision making, complete with predictive capability.

So we can recognize and acknowledge that the rational school of thought contributes to our understanding of foreign policy choices and decision making, but our study cannot stop here. There are other scholarly theories that not only increase our understanding of this topic, but may also provide a better explanation to the behavior of leaders and decision makers at the international level. So from here we turn to the study of internal/domestic factors and the cognitive school of thought.

Innenpolitik and Internal/Domestic Factors

The second approach to foreign policy analysis falls under the umbrella term "innenpolitik" (Trubowitz, 2001, p. 5738). This term includes a variety of theories that all have one common feature. For this school of thought, the primary determining factor in foreign policy is a country's internal composition and domestic situation. For scholars advocating this line of thought, "foreign policy is best understood from the 'inside out,' as a product of domestic conditions and circumstances" (Trubowitz, 2001, p. 5738). Writings from this school of thought can be traced back to such scholars as Immanuel Kant, Vladimir Lenin, and Joseph Schumpeter.

Just as the realist and rational views are linked, so too are the innenpolitik and cognitive approaches. Within literature, a cognitive approach to studying foreign policy decision making usually focuses on factors internal to the parties involved. The focus is not on the international system but rather on influences and constraints at the local, domestic level. And there is the assumption that individual decision makers view the environment differently from each other and that they operate within their own psychological environment (Rosati, 2001).

According to Rosati (2001), the cognitive approach suggests that human cognition and beliefs affect foreign policy choices and decision making in a number of ways. Human cognition shapes the content of policymakers' beliefs and how those beliefs are organized and structured. In addition, cognition impacts common patterns of perception and misperception and cognitive flexibility and rigidity as it pertains to change and learning. This list by Rosati is not insignificant. Human cognition and beliefs do not simply affect foreign policy choices in a superficial manner. Rather, the cognitive

approach claims that cognition and beliefs should be the guiding principle in understanding and studying foreign policy choices and state behavior.

Just as there are vocal supporters of the realist approach, there are also vocal supporters of the internal/cognitive approach. Rosati (2001) went so far as to proclaim:

> Theories of both foreign policy and world politics *must* [emphasis added] be realistically grounded in the assumptions and knowledge of cognitive actors to advance our grasp of practice as well as theory … Ultimately, human cognition matters – in politics, foreign policy, and world politics. (p. 45, p. 46)

Furthermore, echoing Simon's (1985) view, Rosati (2001) believed that the cognitive approach provides more explanatory and predictive power in the study of foreign policy.

And the supporters of the internal/cognitive approach are not asking scholars to merely accept their claims at face value. Despite the research supporting the importance of international relationships and the realist school of thought previously mentioned, there is a growing body of evidence supporting the primacy of domestic considerations. DeRouen (2000) conducted a study examining United States presidents and the diversionary use of force. He found evidence that presidents will divert attention from a weak economy through the use of force. In his concluding remarks, DeRouen stated, "Strategic considerations are important, but domestic political considerations can modify what type of strategic decision will be made by influencing what options are still available" (p. 326) during the decision making process. So even though international and strategic considerations might influence the decision making process, domestic factors might play an even more important role in what courses of action are available to decision makers.

According to various researchers (Mintz and Geha, 1997; Rosenthal & 't Hart, 1991), domestic politics and crisis decision making go hand-in-hand. Mintz and Geha

(1997) claimed, "Leaders' perceptions of the political consequences of their actions play a decisive role in how they choose to deal with foreign policy crises" (p. 83). For these authors, there is a specific reason why domestic political considerations are so important to leaders during decision making. Politicians are actually not as concerned with gaining public support as they are worried about political loss, so they are more likely to reject any alternative that could potentially hurt them politically (Mintz & Geha, 1997).

The importance of public opinion and its relation to political power and decision making is not a recent discovery. In *The American Commonwealth*, his classic and seminal piece about American political institutions, James Bryce (1889), wrote:

> Towering over Presidents and State governors, over Congress and State legislators, over conventions and the vast machinery of party, public opinion stands out, in the United States, as the great source of power, the master of servants who tremble before it. (p. 225)

So within democratic systems, the opinion, desires, and mood of the populace can impact the decisions leaders make. This, in a sense, seems logical given that the voting public gives the elected officials their positions and, thus, their power. But it is not just in democratic political systems that domestic considerations are important. Addressing the domestic factors within a country, Trumbore and Boyer (2000) examined whether the type of political structure within a country influences leaders' decision-making. They stated, "No leader … is completely immune from domestic pressure whether that takes the form of rival political parties seeking partisan advantage, as in a democratic setting, or rival factions jockeying for influence and power in a bureaucratic-authoritarian system" (p. 68). Domestic concerns are important within any political structure, from representative democracies to authoritarian regimes.

One area of research that has gained attention in recent years is the so-called theory of democratic peace. One of the basic assumptions of this theory is that wars between democracies are extremely rare. So the internal domestic political structure of a country influences its foreign policy decisions. This theory has enjoyed such strong support from researchers that Levy (as cited in Hewitt & Wilkenfeld, 1996) claimed that peace between democracies is "the closest thing we have to a law in international politics" (p. 123). In their research using ICBP data, Hewitt & Wilkenfeld (1996) found that "the prevalence of democracy in crisis is a significant predictor of overall crisis violence and the severity of violence when used as the primary crisis management technique" (p. 139). This is not to say that there are never situations in which democracies use violence against each other. Rather, the violence used in those situations is rarely severe (Hewitt & Wilkenfeld, 1996).

In his writings specifically about protracted conflicts, Azar (1985) claimed that the domestic situation within a country is the key. He stated, "The origins of international conflict are, therefore, in domestic movements for the satisfaction of needs and in the drives of nations and states to satisfy the same needs … The motivations for action are internal, not systemic or international" (p. 64).

Summary and Key Elements

Although my proposed research focused on decision maker stress, a factor that is internal to the crisis actor, I also recognize that both the realist and innenpolitik sides are able to make meaningful contributions to the argument and to the body of knowledge pertaining to this subject. According to Trubowitz (2001), "the future of foreign policy

studies lies in finding systematic ways to transcend this problem: that is, to introduce choice and politics into models that recognize that foreign-policy making is constrained by domestic institutions and international balances of power" (p. 5739). Trubowitz believed that foreign policy analysts will face an ongoing challenge in conceptualizing both international and domestic factors at a time when governments continue to face new risks, many of which are outside of their control. But there is room for guarded optimism. Although the rational and cognitive perspectives are often viewed as competing paradigms, there might actually be a convergence developing between these two schools of though (Rosati, 2001). As Brecher (1995) succinctly stated, "The most enduring lesson of a lifetime of IR research is the need for tolerance and synthesis in the search for valid theory" (p. 8). It is my hope that this research project, while grounded in the internal/cognitive approach, will contribute to this convergence and synthesis.

Decision-Making Units

One of the goals of this research project was to analyze and study crises at the state level. The very terminology used with the ICBP calls individual states "crisis actors." So there is an assumption that decisions and actions are not just the machinations of large amorphous bodies, but that there are individuals and/or groups of people responsible for making policy decisions. In fact, "the basic assumption of decision-making theory is that action in international relations can be defined as a set of decisions made by recognizable units" (Brecher, Steinberg, & Stein, 1969, p. 76). Decision units can range from single individuals all the way to large organizations (Hermann, 1969). So whether a decision making unit is one person, such as a country's

leader, or a large body of people, such as a Cabinet, it is possible to identify the organization responsible for making foreign policy decisions.

Recently, scholars have shown increased interest in studying the people or decision units responsible for foreign policy behaviors and choices. Hermann (2001) wrote, "Although we recognize there are numerous domestic and international factors that can and do influence foreign policy behavior, these influences are necessarily channeled through the political apparatus of a government that identifies, decides, and implements foreign policy" (p. 47). It is not a country that makes decisions, it is people. Unfortunately, there has been too little attention given in the study of international relations to these people and the characteristics of individual national leaders (Chiozza & Choi, 2003). But it is clear that studying decision makers is needed. In his research on decision making, Nutt (1992) found that successful decision making is more likely to result from the actions of the decision makers than it is any contextual or situational variables. By examining the actions and decisions made by crisis actors at the state level, this research project could shed light on how these decision making units function in a crisis situation.

Stress

The key independent variable in this research project is decision maker stress. In general, stress for individuals and policymaking groups affects decision making patterns during a crisis (Brecher & Wilkenfeld, 2003; Maoz, 1990, 1997; Nutt, 2002; Rosati, 2001). It is understandable that stress is an inherent and almost universally common characteristic of international crises (North, 1962). Fortunately, it is possible to differentiate different levels of decision maker stress within the ICBP data. This is

critical because at various stress levels, decision makers use different procedures to solve foreign policy problems (Maoz, 1990). In general, at low stress levels, leaders tend to use a cybernetic choice process, while using more analytic choice processes at moderate levels of stress. Cognitive choice processes are often seen at higher stress levels.

The study of stress takes place across a variety of disciplines, from psychology to international relations. Lazarus and Folkman (1984) defined stress as a situation or stimulus "that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p. 19). Maoz (1990, 1997) suggested that decisional stress is a combination of three factors: perceived threat, perceived opportunity, and time pressure. In this framework, threat and opportunity are motivations that drive decision behavior, while time pressure is a constraining force. As it relates specifically to foreign policy analysis, Brecher and Wilkenfeld (2003) stated:

> In the study of foreign policy behavior, stress refers to a state of mind among decision makers brought on by an environmental challenge requiring a response within a limited time; that is, stress is a psychological condition usually associated with anxiety and/or frustration produced by crisis and threat. (p. 175)

As mentioned previously, Brecher and Wilkenfeld took this concept and operationalized it into a measurable variable within the ICBP data set. At the most basic level, described in more detail in a following chapter, the ICBP index of decision maker stress combines "the type of threat perceived by decision makers with the difference in power status between the actor and its adversary" (Brecher & Wilkenfeld, 2003, p. 55).

Examining stress is a natural choice when approaching foreign policy crises from the internal/cognitive point of view. According to Rosati (2001), "Stress produced by international crises often contributes to a more closed decision-making process, poor

policy-making performance, and maladaptive behavior" (p. 70). Disasters are often full of failure-prone decision-making practices (Nutt, 2002). Stress can overwhelm the practice of rational decision making at a time when it is most needed (Rosati, 2001). Research conducted by Maoz (1990, 1997) showed that at extremely high and low levels of stress, decision making became increasingly nonrational.

How exactly does stress affect decision making? Rosati (2001) provided a long list of what he called "poor cognitive habits" (p. 70) that are likely to be seen in high stress crises. High stress tends to:

> Heighten the salience of time and concern for present and immediate future; reduce the size of the policy-making group or the individuals with which one interacts; minimize communication with potential adversaries; increase use of ad hoc communication channels; encourage random and selective search for information; reduce tolerance for ambiguity and increase the likelihood to stereotype and rationalize; increase cognitive rigidity, reliance on familiar decision rules, and metaphorical thinking; limit the search and assessment of alternatives, often to one approach; increase the likelihood of a polarized choice, favoring positions of overcautiousness or greater risk taking; and disrupt learning and the reexamination of decisions. (p. 70)

The significance of this list of cognitive habits cannot be overstated. A reading of these habits shows that if Rosati was correct, increasing amounts of stress affect virtually every aspect of decision making.

Protracted Conflicts

The primary independent variable examined in this research project was internal to the crisis actor. But a secondary focus of this research was to see if a difference exists in the way this factor impacts international crises within non-protracted conflicts and protracted conflicts. Although it is not an area within international relations scholarship that has received the most attention, there is a growing amount of literature in the area of

protracted conflicts.[1] The general consensus is that protracted conflicts are a unique form of conflict and that there are common, identifying characteristics in all protracted conflicts (Azar, 1985; Azar, Jureidini, & McLaurin, 1978; Brecher & James, 1988; Colaresi & Thompson, 2002; Coleman, 2000; Goertz & Diehl, 1993). Independent of each other, these characteristics are necessary but not sufficient criteria for determining whether or not a conflict is protracted. Each of these factors might be found in other, non-protracted conflicts, but when taken together, they provide a framework for defining protracted conflicts.

One of the first distinguishing characteristics of protracted conflicts is the temporal nature of the conflicts. By their very nature, these types of conflicts tend to be lengthy in their duration (Azar, Jureidini, & McLaurin, 1978; Coleman, 2000; Goertz & Diehl, 1993). There is not a consensus as to an exact length of time a conflict must exist in order for it to be considered protracted. It is common for protracted conflicts to last one or more generations (Coleman, 2000). Some researchers use arbitrary lengths of time, such as ten years, although this is "more a matter for empirical measurement than of conceptual clarity" (Goertz & Diehl, 1993, p. 154).

A second feature of protracted conflicts is that there tends to be some fluctuation of intensity over the course of the conflict (Azar, Jureidini, & McLaurin, 1978; Coleman, 2000). There can be a range of intensity levels throughout the conflict, from open hostility and warfare to cooperation. A time period of cooperation, however, does not necessarily signal the end of a conflict. Azar (1985) stated, "Tension reduction measures

[1] A review of literature reveals that protracted conflicts are also referred to as enduring rivalries or intractable conflicts by some authors. For the sake of simplicity, I will be using the term protracted conflict to describe all such conflicts within this research project.

may make the conflict more bearable in the short term, but conflict resolution involves a far more complex process than mere management of cooperative events" (p. 62).

Another characteristic of protracted conflicts is that the conflict is pervasive across society and has a spillover effect into other domains (Azar, Jureidini, & McLaurin, 1978; Coleman, 2000). A good example of this is the ongoing Arab-Israeli conflict. This conflict is often cited as a prototypical modern example of a protracted conflict. It is undeniable that the conflict between various Arab nations and Israel and between armed Arab and/or Palestinian factions and Israel has affected all aspects of life in Israel and the occupied/formerly occupied territories of the Gaza Strip and the West Bank, as well as other sovereign countries such as Lebanon.

A fourth factor of protracted conflicts is the strong forces that constrain interactions resulting in a resistance to resolution (Azar, Jureidini, & McLaurin, 1978; Coleman, 2000). A term used to describe the rise and fall of tensions in these conflicts is Normal Relations Range (NRR). Azar, Jureidini, and McLaurin (1978) argued that forces and dynamics on both sides of a conflict will contribute to maintaining the NRR, even if it is at an appalling cost of human life. Because there is such a strong gravitation towards the high tension status quo within a protracted conflict, traditional approaches to conflict resolution, such as diplomacy, negotiation, and mediation, and even the use of threats or force by either side usually fail in resolving or de-escalating these conflicts (Coleman, 2000).

Brecher and Wilkenfeld (2003) wrote about their work with the ICBP and the protracted conflict dimension of international crises. They suggested a protracted conflict-crisis model. The basic proposition is as follows:

> International crises within a protracted conflict differs from those outside a protracted conflict along a number of dimensions, from type of trigger and values at stake, though the role of violence in crisis management, the extent of involvement by the major powers and global organizations, and their effectiveness in crisis abatement, to the substance and form of outcome. (p. 158)

The authors then proposed 11 different hypotheses regarding this proposition and provided results regarding each of these hypotheses. Some of the findings included that crisis actors within protracted conflicts were more likely to experience violent crisis triggers and more likely to employ severe violence as part of their crisis management strategy. The authors also found that protracted conflict crises were more likely to exhibit semi-military activity by the major powers. Outcomes of these crises were more likely to be ambiguous, ending in either stalemate or compromise. In summary, the authors concluded that crisis actors in protracted conflicts:

> Find themselves in quite different situations from the corresponding non-protracted conflict actors, and that these differences are reflected in the manner in which their crises are triggered, the gravity of the perceived threat, and the types of crisis management techniques that are employed. (p. 169)

According to the ICBP, 261 international crises, approximately 59% of all crises, from 1918 to 2003 occurred within a protracted conflict.

Chapter 3

Hypotheses

I chose the ten hypotheses (divided into five pairs) below in order to examine the relationships between stress and a variety of crisis attributes and outcomes. Leaders' decision making either directly or indirectly impacts all of the variables selected. The hypotheses allow for a better understanding of the impact of stress on decision making during a foreign policy crisis. In addition, the predicted outcomes for non-protracted conflict and protracted conflict crises vary. I propose that stress does not merely affect these crisis attributes and outcomes; I claim that stress affects them differently in non-protracted conflict and protracted conflict crises.

Hypothesis 1a (H1a)

As stress levels increase in protracted conflict crises, the amount of time between crisis trigger and crisis response decreases.

Hypothesis 1b (H1b)

As stress levels increase in non-protracted conflict crises, there is no relationship between stress levels and amount of time between crisis trigger and crisis response.

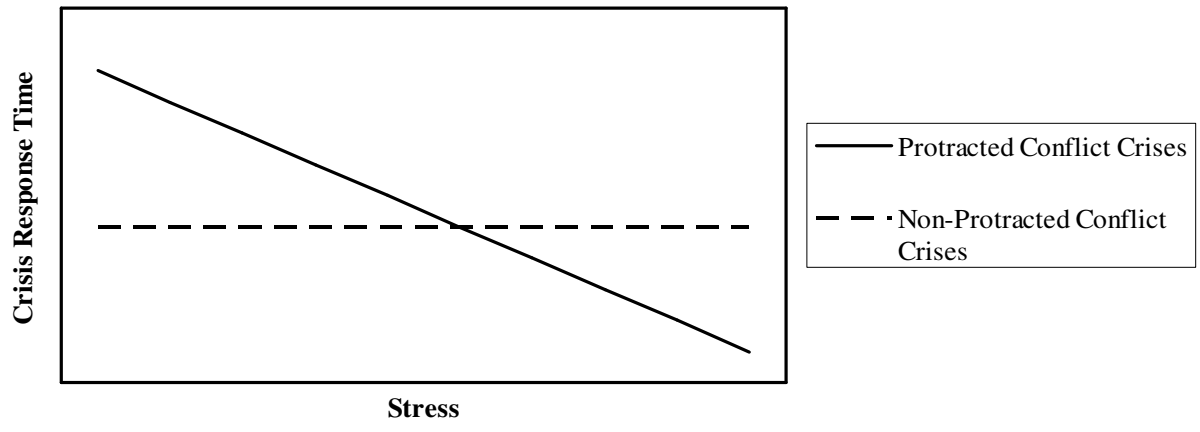
Rosati (2001) claimed that high stress heightens "the salience of time and concern for present and immediate future" (p. 70). But how does this increased focus on time impact crisis decision making? Research by Brecher (1984) examining crises from 1945 to 1975 showed that in certain types of crises, the crisis response time lengthened. This might have been due to the decision makers' understanding of the grave consequences of miscalculation and the recognition that slower responses might allow for the opportunity

to find appropriate non-violent responses. While I do not argue with Brecher's results mentioned above, I propose that crisis response times will decrease, not increase, in crises with higher levels of decision maker stress.

I hypothesize that the relationship between stress and decreased crises response time only exists in protracted conflict crises. It is important to consider the setting and context of the crisis. Crises occurring within protracted conflicts take place in the context of a long, on-going conflict, one that perhaps spans multiple generations. So the issues relevant to the crisis are likely to be well-known by decision makers. In addition, the issues tend to be high-stake issues concerning fundamental human needs such as group identity (Coleman, 2000). Given these factors, leaders in the midst of protracted conflict crises, particularly at the higher stress level, are more likely to respond quickly when compared to leaders in non-protracted crises.

To illustrate the predicted relationships in these hypotheses, a pair of basic line graphs is shown below. Similar charts will be shown with each set of hypotheses.

Figure 1. Stress and Crisis Response Time



Hypothesis 2a (H2a)

As stress levels increase in protracted conflict crises, crisis actors are more likely to have a large decision making unit.

Hypothesis 2b (H2b)

As stress levels increase in non-protracted conflict crises, there is no relationship between stress levels and the likelihood of a large decision making unit.

There is no clear consensus in literature as to these hypotheses. Without necessarily examining changing stress levels, a majority of the literature indicates that centralization or constriction of authority occurs during a crisis (Herman, 1963; Holsti, 1971; McKeown, 2000; Starbuck, Greve, & Hedberg, 1981; Staw, Sandelands, & Dutton, 1978). High-level officials tend to consolidate control of decision making to the highest executive level during crises. The assumption is that decision makers will choose to surround themselves only with their most trusted advisors during a crisis and that this tendency is more profound as stress levels increase.

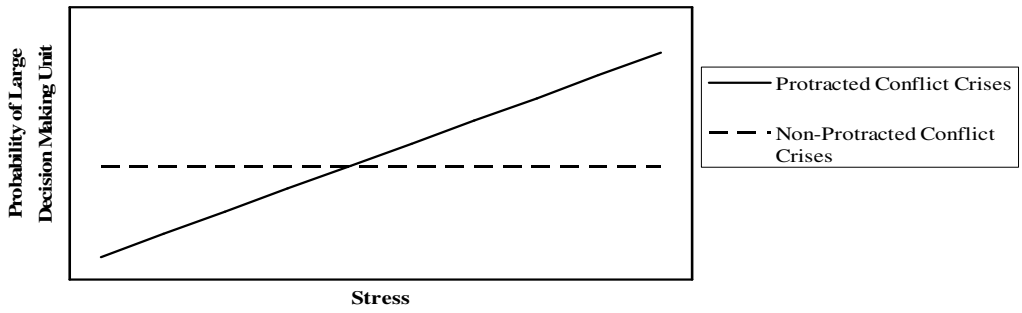
My hypotheses do not directly challenge the view that centralization of decision making authority occurs during crises. I am not comparing decision making in crisis situations to decision making in noncrisis situations, although others have examined this topic. Hermann (1969) looked at contraction of authority, which he defined as "a reduction in the number of individuals who share responsibility for making the decision" (p. 143). His results showed that the frequency of contractions was significantly higher in noncrisis situations than it was in crises. So according to his research, the number of individuals responsible for the decision making is more likely to decrease in noncrisis situations than it is crisis situation. Although this evidence does not necessarily

guarantee that the decision making unit size will increase as stress increases, it does suggest that as a possibility.

Looking specifically at the effect of stress on decision making unit size, Sigelman and McNeil (1980) conducted a case analysis of presidential decision making under stress using President Johnson and the Tet offensive as their case study. They had hypothesized that at high stress levels, decision making unit size would decrease. In fact, the opposite occurred and the size of the decision making group significantly increased during this period. There was no contraction of authority within President Johnson's administration during the Tet offensive. While it is not possible or advisable to build a theory around a single case study, these results imply that the size of decision making units could increase as stress increases.

In regards to conflict setting, these hypotheses state that higher stress levels will result in large decision making units only in protracted conflict crises. Because protracted conflicts are long-term conflicts that impact multiple aspects of society, it is reasonable to assume that leaders are even more likely to have a larger decision making group in order to include experts and/or representatives from various organizations within the government and society. This echoes Coleman's (2000) view that a multidisciplinary approach is needed to resolve protracted conflicts. Crises within non-protracted conflicts might not require such an approach, allowing for a smaller decision making unit even as stress increases.

Figure 2. Stress and Probability of Large Decision Making Unit



Hypothesis 3a (H3a)

As stress levels increase in protracted conflict crises, crisis actors are less likely to respond to non-violent crisis triggers with violent crisis management responses.

Hypothesis 3b (H3b)

As stress levels increase in non-protracted conflict crises, there is no relationship between stress levels and the likelihood of violent crises management responses to non-violent crisis triggers.

In their discussion of the trigger-response mechanism, Brecher and Wilkenfeld (2003) discussed the concept of matching. Matching is defined as "a reciprocal relationship between incoming behavior (crisis trigger) and outgoing behavior (crisis response)" (p. 174). There is no logical reason to expect states to overreact or underreact to crisis triggers, unless there are other factors at work (Brecher & Wilkenfeld, 2003). These authors cited numerous studies that have examined this "behavior-begets-behavior phenomenon" (p. 175). But history shows us that there are times when states do not

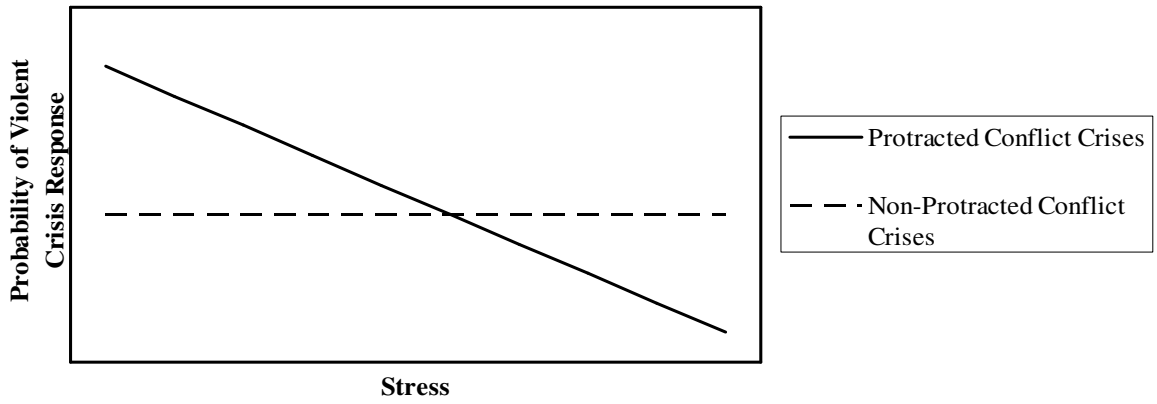
respond in a reciprocal manner to crisis triggers. The goal of this hypothesis is to determine if stress might be one of the other factors that explain these deviations from the norm.

At first glance, this hypothesis does not appear to make logical sense. I claim that at lower stress levels crisis actors are more likely to violate the norm of matching behavior by responding to a non-violent trigger with a violent response, while at increased stress levels, they are more likely to match non-violent triggers with non-violent responses. It would seem that the inverse would be true and that matching behavior would be less likely as stress increases, not as stress decreases. Rosati (2001) stated that high stress tends to "increase cognitive rigidity, reliance on familiar decision rules, and metaphorical thinking" (p. 70). Maoz (1990, 1997) claimed that high stress causes decision makers to use mechanisms and oversimplifications that will help the decision makers cope with problems by reducing cognitive conflicts. High stress can lead to "the utilization of biased cognitive selection criteria" (Maoz, 1990, p. 17). So the supposition is that at higher stress levels, crisis actors will fall back on the norm of matching behavior because that is a more natural and basic decision rule which reduces the perceived complexity of the situation. In high stress situations, decision makers might show greater attentiveness to the content and intensity of crisis triggers as crisis response options are formed (Brecher & Wilkenfeld, 2003). But at lower stress levels, crisis actors might be less likely to fall back on familiar decision rules. Leaders tend to invest little amounts of time or thought into finding a solution (Maoz, 1990). And with fewer cases of crises falling into the low stress category in comparison to the number of crises that fall into the medium and high stress categories, these low stress crises are

unusual and not the norm. As such, the crisis responses may also differ from the expected norm. In addition, research suggests that decision performance is reduced at low stress levels (Maoz, 1997). Although this set of hypotheses does not look strictly at decision performance, the idea is that crisis actors will behave differently in lower stress crises than they will in higher stress crises.

This set of hypotheses states that a breakdown in matching behavior related to crisis triggers and crisis responses will only occur in protracted conflict crises. Brecher and Wilkenfeld's (2003) work showed that violence is more likely to be associated with protracted conflict crises than non-protracted crises. So there is an increased likelihood of a history of violence between parties within a protracted conflict. Once violence occurs between parties, it is easier for crisis actors to respond with violence, even if the initial trigger to a particular crisis was not violent. Violent acts are seen as normal in these conflicts (Coleman, 2000). In addition, conflict escalation is more likely to be seen in protracted conflicts (Coleman, 2000), thus making it reasonable to hypothesize that crisis actors are more likely to respond to non-violent triggers with violent responses in protracted conflicts.

Figure 3. Stress and Probability of Violent Crisis Response to Non-Violent Crisis Trigger



Hypothesis 4a (H4a)

As stress levels increase in protracted conflict crises, the outcome is more likely to be definitive.

Hypothesis 4b (H4b)

As stress levels increase in non-protracted conflict crises, there is no relationship between stress levels and the likelihood of a definitive outcome.

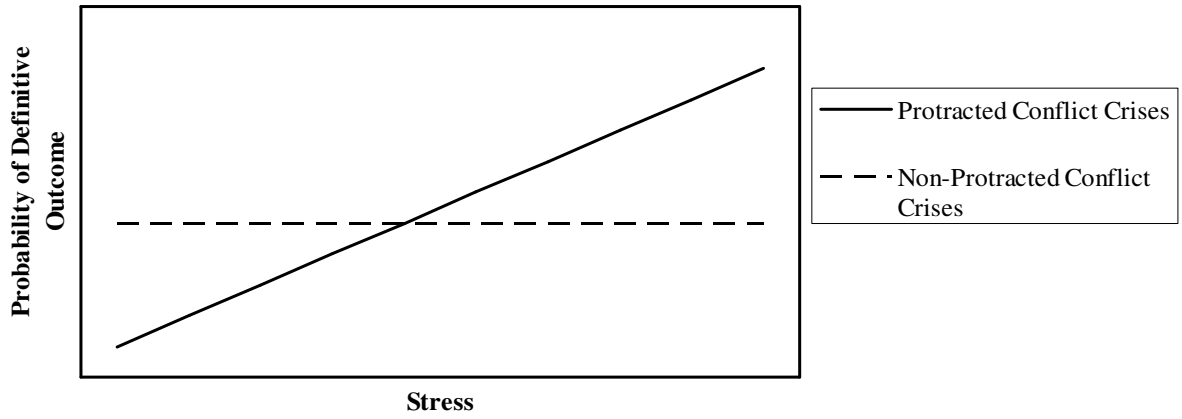
As a resolution to a crisis occurs, it seems reasonable to assume that crisis actors are going to seek an outcome that benefits them the most in terms of long-range, strategic goals, even if at the expense of short-range considerations. So an ambiguous outcome to a crisis may be preferable in the present if it allows for the possibility of a definitive (and favorable) outcome in the future. Yet Smart and Vertinsky (1977), citing the work of Paige and Alber, claimed the opposite. They stated that leaders are actually more concerned about short-range issues when under great stress, even if they jeopardize long-range outcomes. And in the short-term, it is conceivable that a definitive outcome with

immediate benefits may be preferable to an ambiguous outcome with distant, long-term benefits. This hypothesis also matches with Rosati's (2001) claim that higher stress reduces the "tolerance for ambiguity" (p. 70), as well as increasing the focus on present and immediate future concerns.

It should be noted that this hypothesis appears to differ from Brecher and Wilkenfeld's (2003) claim that crises within protracted conflicts are more likely to result in ambiguous outcomes. But a closer examination of their work shows that this hypothesis does not necessarily contradict their work. Brecher and Wilkenfeld's research showed that 54% of protracted conflict crises ended in ambiguous outcomes, compared to 43% of non-protracted conflict crises. This means that 46% of protracted conflict crises and 57% of non-protracted conflict crises ended in definitive outcomes. So their claim that protracted conflict crises are more likely to end in ambiguous outcomes when compared to non-protracted conflict crises appears valid. But that still leaves 46% of protracted conflict crises ending in definitive outcomes. This hypothesis is an attempt to determine if stress might be a factor in that set of crises.

I hypothesize that a relationship exists between stress and definitive outcomes in protracted conflict crises, but not in non-protracted conflict crises. The reason for this is due to the idea of Normal Relations Range mentioned previously. A characteristic of protracted conflicts is the maintained equilibrium between adversaries. I believe that a definitive outcome is more likely to facilitate this equilibrium. And it is conceivable that at higher stress levels, there will be a stronger sense of urgency to return to this equilibrium, particularly in a long-running conflict between nations.

Figure 4. Stress and Probability of Definitive Outcome



Hypothesis 5a (H5a)

As stress levels increase in protracted conflict crises, there is no relationship between stress levels and the likelihood of increased tension levels between adversaries following a crisis.

Hypothesis 5b (H5b)

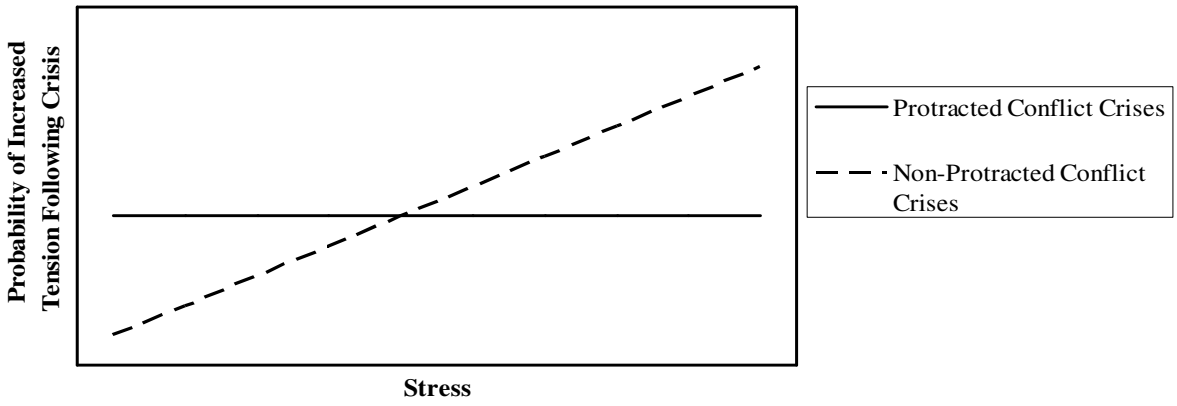
As stress levels increase in non-protracted conflict crises, crisis actors are more likely to experience increased tension levels between adversaries following a crisis.

This set of hypotheses is the only pair claiming a significant relationship between stress and crises within non-protracted conflict crises but not protracted conflict crises. Although to this point the idea of Normal Relations Range (NRR) has been used to describe protracted conflicts, this concept can be used to organize and analyze any actions, policies, or events between different countries (Azar, 1972; Azar, Jureidini, &

McLaurin, 1978). It is not just used with protracted conflicts, although countries experiencing this type of conflict tend to be more constrained towards status quo behaviors. That being said, the NRR between adversaries experiencing non-protracted conflict crises might also be important to the ongoing relationship between the parties. If the state of affairs between crisis actors has deteriorated to the point of becoming adversarial, then it is plausible that it will remain so following a crisis. In a sense, a new NRR is created based on the events of a crisis. In fact, Azar (1972) stated that the behavior of the actors is one of the reasons that the NRR between parties can change. And a higher stress crisis is likely to only amplify this trend and constrain crisis actors to maintain the status quo. In addition high stress can lead to a decrease in communication between adversaries and an increase in stereotyping behavior (Rosati, 2001). Both of these tendencies are likely to cause an increase in tension levels.

However, I expect that no such relationship exists between stress levels and post-crisis tension levels in protracted conflicts. The reason is that high tension levels tend to be the norm in these conflicts. Stress in one of many factors that might be responsible for maintaining these increased tension levels, but I do not believe that it is a significant contributing factor.

Figure 5. Stress and Probability of Increased Tension Following Crisis



The hypotheses and figures above represent what I expect to find in my research. In general, I believe that decision maker stress will significantly impact crisis response time, size of decision making unit, violence used in a crisis, type of crisis outcome, and tension levels following a crisis. Furthermore, I believe that decision maker stress impacts crises differently based on the conflict setting, i.e., protracted or non-protracted conflict settings. In the following chapter I describe my methodology, data, and measures.

Chapter 4

Methods

The data for this research project came from the International Crisis Behavior Project (ICBP). The primary researchers for this project are Michael Brecher and Jonathan Wilkenfeld. The ICBP, an ongoing project that began in 1975, contains information on 443 international crises, 975 crisis actors involved in these crises, and 32 protracted conflicts, all from 1918 to 2003. The ICBP website, http://www.icbnet.org, contains information about the project and also contains a link to a data viewer, http://www.cidcm.umd.edu/icb/dataviewer/, which has summaries of each international crisis, as well as information on some of the key aspects and variables of each crisis. The full data set and codebooks are also available on the ICBP website in SPSS format. [2]

Independent Variable

The variable that served as the independent variable for this analysis and, thus, the key to this research project was "decision maker stress." The decision maker stress variable is actually an index variable created from two other variables within the ICBP dataset. The purpose of this index, according to Brecher and Wilkenfeld (2003) was "to combine the type of threat perceived by decision makers with the difference in power status between the actor and its adversary" (p. 55). So, in a sense, this variable was an effort to combine both the internal and the external factors which impact decision making. But I still consider this an internal factor because it is the stress level of the decision maker, so it is internal to the crisis actor. This internal decision maker stress variable is not, however, measuring the individual stress levels of world leaders; a better

[2] For more detailed information on all of the variables discussed in this section, as well as examples, please see the appendix located at the end of this paper.

description would be that it is a systemic stress level. It is the stress level of the crisis situation that leaders find themselves in.

The two variables used to calculate the stress level were "gravity of crisis threat" and "power relations." The gravity variable identifies the area or value that is most endangered during a crisis, as perceived by the principal decision makers of the crisis actor. This variable was divided into eight categories: economic threat, limited military threat, political threat, territorial threat, threat to influence in the international system or regional subsystem, threat of grave damage, threat to existence, and other.

The variable "power relations" was based on the power status differences between the crisis actor and its adversary. The ICBP divides crisis actors into four power statuses: small, middle, great, and superpower.

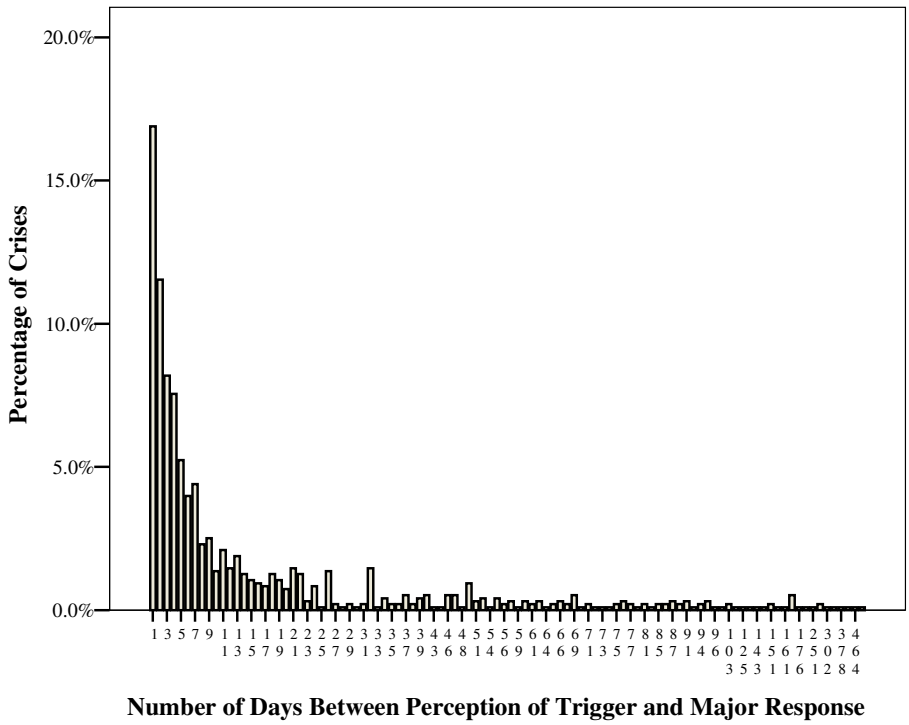
As explained in their book, Brecher and Wilkenfeld (2003) used a three stage process to create the decision maker stress index variable. First, values were assigned to each of the categories of the gravity variable. Then values were assigned to the power relations variable based on the differences in power status. Finally, a stress indicator was computed for each of the crisis actors in the ICBP dataset. The stress levels computed were divided into four ordinal-level categories: low, medium, high, and very high.

Even though this variable was mentioned in the Brecher and Wilkenfeld (2003) text about the ICBP, it was not included in the ICBP dataset that is publicly available. So I contacted the researchers and corresponded via e-mail with Jonathan Wilkenfeld. He sent me the SPSS script for the decision maker stress index that allowed me to run the statistical analysis on these variables.

Dependent Variables

There are five different dependent variables examined and one qualifying control variable found in H3. The first dependent variable from H1 is "elapsed time between perception of crisis trigger and crisis response." This is simply the number of days from the time that a crisis trigger is perceived to the time of a major response by the crisis actor. This variable is a time interval variable, but its distribution is highly skewed, as shown in Figure 6, with crisis responses ranging from one day to 485 days following the crisis trigger.

Figure 6. Elapsed Time from Crisis Trigger to Crisis Response



A large percentage of crisis responses occur quickly after a crisis trigger, but within the ICBP data set, responses continue to be documented well past the date of the crisis as well. Because the abnormality of this distribution, a log transformation of this data was used to achieve a distribution much closer to normal and more amicable to running statistical analyses.

The second dependent variable (H2) is "size of the decisional unit." The decisional unit is the decision making group responsible for determining how a crisis actor should respond to a crisis trigger (Brecher & Wilkenfeld, 2003). This group may not necessarily be a country's formal decision making body (i.e., the Cabinet or legislature). This variable is a divided into three categories: small (1-4 persons), medium (5-10 persons), and large (over 10 persons). Because I used a logistic regression analysis, the outcome must be dichotomous. Therefore, I combined medium and large groups into one category and left small decision making units as its own category.

The third variable (H3) is "major crisis management response." This ICBP variable is divided into nine categories: no response-inaction, verbal act, political act, economic act, other non-violent act, non-violent military act, multiple including non-violent military act, violent military act, and multiple including violent military act (Brecher & Wilkenfeld, 2003). In my research project, the nine categories were collapsed into a dichotomous outcome, either non-violent or violent response. Examples of non-violent crisis responses would include actions such as diplomatic protest, severing diplomatic ties, sanctions, embargoes, or a military show of force. Violent crises responses could vary from small-scale border skirmishes to large-scale military attacks and war.

As H3 states, I only examined the crisis management response to a non-violent crisis trigger, thus making "crisis trigger" a qualifying control variable. The trigger to a foreign policy crisis is "the specific act, event or situational change perceived by the decision maker(s) as a threat to basic values, with finite time for response and a heightened probability of involvement in military hostilities" (Brecher & Wilkenfeld, 2003, p. 48). The crisis trigger is divided into nine categories within the ICBP data. Those categories, similar to the categories of the major crisis response, are verbal act, political act, economic act, external change, other non-violent act, internal verbal or physical challenge to regime or elite, non-violent military act, indirect violent act, and violent act. As with the crisis response variable, these categories were collapsed into non-violent and violent crisis triggers so that responses to non-violent crisis triggers could be studied. A historic example of a non-violent trigger is the case of the Berlin Blockade, also commonly referred to as the Berlin Airlift (1948-1949). From the Soviet Union's perspective, the trigger to the crisis was the publication by the Western powers of their recommendations that the Western zones of occupied Germany be integrated into the country of West Germany. For the United States, Great Britain, and France, the trigger to the crisis was the Soviet Union's decision to block all transportation into and out of Berlin (Brecher & Wilkenfeld, 2003; http://www.cidcm.umd.edu/icb/dataviewer/).

The fourth dependent variable (H4) is "content of crisis outcome." This variable examines how a crisis terminates from the perspective of the crisis actor (Brecher & Wilkenfeld, 2003). In the data set, the possible outcomes are victory, compromise, stalemate, defeat, and other. For this research project, victory and defeat were definitive

outcomes, while compromise and stalemate were ambiguous outcomes. Crises with outcomes labeled as "other" were excluded, thus creating a dichotomous outcome.

The final dependent variable (H5) is "escalation or reduction of tension between adversaries following a crisis." This variable is simply divided into tension escalation, tension reduction, and recent cases. Recent cases were excluded from the analysis.

Moderating Variable

I ran the statistical analyses separately for non-protracted conflict crises and protracted conflict crises. The ICBP divides all crises into one of three categories: non-protracted conflicts, protracted conflicts, and long-war protracted conflicts. For my research, I recoded the data so that long-war protracted conflicts were combined with protracted conflicts creating a single protracted conflict category.

Control Variables

To build the statistical models for this research project, I also included several control variables that might influence the results of my analyses. The ICBP data set consists of many variables, too many to be included in any single analysis. I chose control variables based on the work of Brecher and Wilkenfeld (2003). These control variables have been identified as being critical aspects of the international system and key to better understanding the dynamics of international crises (Brecher & Wilkenfeld, 2003). The general categories of control variables used were: system polarity, regime type, violence, geography, and third party involvement. I will now explain each of these variables in more detail, as well as expand on their importance.

The term polarity refers to "the number of power and decision centers in an international system" (Brecher & Wilkenfeld, 2003, p. 79). The idea of power centers is

similar to the more traditional idea of countries considered to be great powers or super powers. A great or major power is a country that is able to shape world politics through its foreign policy decisions because of that country's vast human and material resources (Brecher & Wilkenfeld, 2003). The term super powers is generally recognized and reserved for the United States of America (USA) and the Union of Soviet Socialist Republics (USSR) in the post-World War II era.

These authors, however, took the idea of polarity in a different direction by also including the concept of decision centers. A decision center may lack the military capability of a power center, but these states are still important in the international system and are generally powerful enough to act autonomously from other countries (Brecher & Wilkenfeld, 2003).

For categorizing purposes, the ICBP data are divided into five different polarity types and periods: multipolarity (1918-1939), World War II (1939-1945), bipolarity (1945-1962), polycentrism (1963-1989), and unipolarity (1990-present). The seven great powers during the multipolarity era were France, Germany, Great Britain, Italy, Japan, the USSR, and the USA. World War II was a transition period between the times of multipolarity and bipolarity. The bipolarity period was a time in which the USSR and the USA were the focal points of global power. In the years of polycentrism, the USSR and the USA were still the dominant military powers, but political decision power was held by other states as well, states which could not necessarily be controlled by the two super powers. Finally, the era of unipolarity began with the collapse of the USSR, which has left the USA as the dominant world power (Brecher & Wilkenfeld, 2003).

"System polarity" was used as a control variable because of its importance in analyzing international politics and conflict. The unresolved question regarding a link between political systemic structure and conflict is an area of enduring and ongoing scholastic interest (Brecher & Wilkenfeld, 2003). Various scholars have tried to determine whether the world is or has been safer and more stable at various times in recent history based on the number and location of powers within the international system. Because research has shown that polarity has been linked to stability in the global system (Brecher & Wilkenfeld, 2003), it is appropriate to use this variable as one of the control variables.

As mentioned earlier in the discussion of the theory of democratic peace (see Chapter 2), there has been much interest in whether regime type impacts foreign-policy crises. Numerous studies have examined how regime type, in general, and democratic governments, in particular, have impacted war, peace, conflict, military violence, and crises, to name just a few areas that have been examined. Although there is not yet a definitive answer as to how regime type affects international crises, the importance of this concept justifies its use a control variable. The ICBP variable "regime type" is divided into five different types: democratic, civil authoritarian, military-direct rule, military-indirect rule, and military dual authority. I collapsed the military regime types into a single category resulting in three categories.

The next control variable is concerned with the idea of violence within a crisis. I have already mentioned violence as it relates to crisis triggers and crisis responses (see Chapter 3). I included another violence-related concept as a control variable, "violence associated with crisis actor."

The "violence associated with crisis actor" variable looks at the intensity of violence used by a crisis actor during a conflict. It does not take into consideration whether or not violence was a primary crisis management technique; it is just identifying the extent of violence experienced by crisis actors during a crisis. It is divided into four categories: no violence, minor clashes, serious clashes, and full-scale war.

Although violence in international conflict and crises garners much public attention, research has shown that violence is not always or even frequently used during crises (Brecher & Wilkenfeld, 2003). But because violence does have such an impact when it is used, the use of violence as a control variable is needed in order to further understand its implications and hopefully contribute to the development and promotion of non-violent conflict resolution strategies.

Geography, like polarity, has long been an area of interest for researchers studying international conflict (Brecher & Wilkenfeld, 2003). Geography itself is a broad category, so two different geographic control variables were used. The first was "geographic location of the crisis." The ICBP data set has twenty different geographic areas for the location of the crisis. (See the appendix for a listing of these twenty locations.) For simplicity, these locations were grouped into five larger geographic areas: Middle East, Asia, Africa, Europe, and North, Central, and South America. The second geographic variable was "distance of crisis actor from the location of crisis." This measured the location of the crisis relative to the location of the crisis actor. This variable was divided into four different categories: home territory, sub-region, same continent, and elsewhere.

Conflicts based on geography and territory are as old as humanity. Ever since humans formed collective groups, borders between groups have been a source of conflict and tension (Brecher & Wilkenfeld, 2003). From a research perspective, the use of geography as a control variable is warranted because geography has been linked to conflict in many empirical studies, whether it is viewed as a facilitating cause, an underlying cause, or a direct cause (Brecher & Wilkenfeld, 2003).

The final set of control variables was third party involvement. Inclusion of third party involvement as a control variable is justified because, from the League of Nations to the United Nations (UN), the international political system has witnessed the involvement of third parties in the search for peaceful settlements of disputes (Brecher & Wilkenfeld, 2003). In addition to the League of Nations and the UN, third parties include regional organizations, such as the Organization of American States and the Organization of African Unity, and security organizations such as NATO and the Warsaw Pact. Young (1967) defined third party intervention as:

> Any action taken by an actor that is not a direct party to the crisis, that is designed to reduce or remove one or more of the problems of the bargaining relationship and, therefore, to facilitate the termination of the crisis itself. (p. 34)

The control variables falling under this category were "United States of America (USA) involvement," "Union of Soviet Socialist Republics (USSR)/Russia involvement," "content of global organization involvement," and "content of regional/security organization involvement."

In the ICBP data set, "USA involvement" and "USSR/Russia involvement" use similar coding with nine possible outcomes. These outcomes are: neutral or not involved in crisis; economic, political, or propaganda involvement; covert, semi-military, or direct

military involvement; and crisis actor. The crisis actor category is for cases in which the USA or USSR/Russia were the crisis actor being coded. For the purpose of my research, I created dichotomous variables by collapsing these outcomes into neutral/not involved in crisis and involved in crisis/crisis actor.

The variables "content of global organization involvement" and "regional/security organization involvement" also contain several possible outcomes. (See code book in appendix for more details.) For both of these variables, the outcomes were combined into a dichotomous outcome of either involved or not involved in the crisis.

Research Design and Statistical Methods

The research design used in this project was relatively straight forward. A statistical analysis was conducted on each of the ten hypotheses using SPSS statistical software. For the purpose of the analysis, the entire ICBP actor-level data set was divided into two smaller sets, one for protracted conflict crises and one for non-protracted conflict crises. The protracted conflict data set contained a total of 555 cases, and the non-protracted conflict data set contained a total of 415 cases. For both data sets some cases were excluded if data were missing from the variables being examined, so the actual sample sizes of the hypotheses was typically less than these stated numbers.

For each hypothesis, I created seven models. The first model contained only the independent variable "decision maker stress" and the particular dependent variable being examined. For the next five models, one category of control variable was included in each model. The seventh and final model was the full model containing all control variables.

The statistical methods used for the analyses were OLS (or linear) regression for H1 and logistic regression for the remaining four pairs of hypotheses. As mentioned previously, the dependent variable for the H1 pair of hypotheses is the interval scale variable of time between crisis trigger and crisis response. Instead of using the scale included in the ICBP data, a log transformation of that data was used as the dependent variable. This was done in an effort to create a normal distribution out of these highly skewed data. The dependent variables used in the remaining four pairs of hypotheses all contain dichotomous outcomes, making logistic regression the appropriate choice of statistical method.

The control variables used in this project were all categorical in nature. Because of this, it was necessary to create dummy variable sets for each group of control variables. The final four control variables, USA, USSR/Russia, global organization, and regional/security organization involvement, have dichotomous outcomes. The rest of the variables each contain multiple categories, with one category from each set withheld from the analysis as a reference category.

Chapter 5

Data Analysis and Discussion

In this chapter I present the findings from my statistical analyses. Because the hypotheses are in pairs, I provide the tables in pairs as well, along with a summary of the results for each pair. I will also discuss and analyze my findings, as well as provide historical case examples from the ICBP data set.

To assist in the understanding and interpretation of the analyses, I included below a frequency distribution table (Table 1) for all independent, dependent, and control variables in both protracted and non-protracted conflict crises. The independent variable "decision maker stress" is listed first. The variables listed next are the nominal scale dependent and control variables. For these variables, I included the frequencies and percentages. The final variable listed at the bottom is the ratio scale dependent variable for crisis response time with the frequency, mean, and standard deviation included.

The first pair of hypotheses was examined using OLS regression, while the remaining four pairs used binary logistic regression. As can been seen in the tables that follow (Tables 2-11), seven statistical models are included for each hypothesis. (Hypotheses H3a and H3b do not include one model; the reason for this will be discussed in more detail below.) In these tables, the furthermost left column is the name of the variable included in the analysis. The first variable is always the independent variable (IV) "decision maker stress," shortened simply to "stress." All of the control variables listed under the IV fall under one of five possible headings, also included in that column. They are "system polarity," "democratic regime," "violence associated with crisis actor," "geography," which actually contains two sets of control variables that are each listed,

Table 1: Frequency Distributions for Independent, Dependent, and Control Variables in Protracted Conflict and Non-Protracted Conflict Crises

		Protracted Conflict Crises		**Non-Protracted Conflict Crises**	
Variable Name	**Variable Values**	**Frequency**	**Percent**	**Frequency**	**Percent**
Independent Variable					
Decision Maker Stress	Low	63	11.5	64	15.6
	Medium	257	46.7	194	47.2
	High	154	28.0	121	29.4
	Very High	76	13.8	32	7.8
	Total	550	100.0	411	100.0
Dependent Variables (Nominal)					
Decision Unit Size	Small	180	43.9	161	54.6
	Large	230	56.1	134	45.4
	Total	410	100.0	295	100.0
Crisis Response to Non-Violent Crisis Trigger	Non-Violent	201	71.0	198	79.5
	Violent	82	29.0	51	20.5
	Total	283	100.0	249	100.0
Outcome	Ambiguous	234	43.3	150	36.9
	Definitive	307	56.7	257	63.1
	Total	541	100.0	407	100.0
Tension Level	Reduction	213	41.1	256	66.0
	Increase	305	58.9	132	34.0
	Total	518	100.0	388	100.0
Control Variables (Nominal)					
System Polarity	Multipolarity (1918-1939)	56	10.2	117	28.5
	World War II (1939-1945)	60	10.9	20	4.9
	Bipolarity (1945-1962)	133	24.2	64	15.6
	Polycentrism (1963-1989)	235	42.7	155	37.7
	Unipolarity (1989-present)	66	12.0	55	13.4
	Total	550	100.0	411	100.0

Political Regime	Democratic	215	39.1	159	38.7
	Civilian-Authoritarian	225	40.9	182	44.3
	Military	110	20.0	70	17.0
	Total	550	100.0	411	100.0
Violence Associated with Crisis Actor	No Violence	164	29.8	153	37.2
	Minor Clashes	90	16.4	126	30.7
	Serious Clashes	125	22.7	78	19.0
	Full War	171	31.1	54	13.1
	Total	550	100.0	411	100.0
Geographic Location of Crisis	Middle East	133	24.2	65	15.8
	Asia	159	28.9	51	12.4
	Africa	90	16.4	118	28.7
	Europe	138	25.1	120	29.2
	Americas	30	5.5	57	13.9
	Total	550	100.0	411	100.0
Distance of Crisis Actor from Crisis Location	Home Territory	329	59.8	240	58.4
	Sub-region	101	18.4	88	21.4
	Same Continent	52	9.5	41	10.0
	Elsewhere/Remote	68	12.4	42	10.2
	Total	550	100.0	411	100.0
USA Involvement	Neutral or Not Involved	124	22.5	184	44.8
	Involved or Crisis Actor	426	77.5	227	55.2
	Total	550	100.0	411	100.0
USSR/Russia Involvement	Neutral or Not Involved	209	38.0	220	53.5
	Involved or Crisis Actor	341	62.0	191	46.5
	Total	550	100.0	411	100.0

Global Organization Involvement	Not Involved	228	41.5	230	56.0
	Involved	322	58.5	181	44.0
	Total	550	100.0	411	100.0
Regional/Security Organization Involvement	Not Involved	324	58.9	249	60.6
	Involved	226	41.1	162	39.4
	Total	550	100.0	411	100.0

	Protracted Conflict Crises			**Non-Protracted Conflict Crises**		
Variable Name	**Frequency**	**Mean**	**Standard Deviation**	**Frequency**	**Mean**	**Standard Deviation**
Dependent Variable (Ratio)						
Log Transformed Crisis Response Time	541	.8708	.63401	403	.7774	.58961

and finally "third party involvement," which includes four different sets of control variables that are each listed.

In Tables 2 and 3, Model I in the first numbered column on the left is the most basic reduced model with the standardized and unstandardized coefficients for only the independent variable (IV) "decision maker stress." Model II contains the coefficients for the IV and the "system polarity" control variables representing the time period of the crises. Moving to the right, Model III contains the coefficients for the IV and the "political regime" control variables. Next, Model IV contains the coefficients for the independent variable and the "violence associated with crisis actor" control variables. The next column, Model V, contains the coefficients for the IV and the two different sets of geographic control variables. The first set of geographic variables is "geographic location of crisis," and the second variable is "distance of crisis actor from crisis location." The next column to the right, Model VI, contains the coefficients for the IV and multiple sets of "third party involvement" control variables. Specifically, the coefficients included cover "USA involvement," "USSR/Russia involvement," "global organization involvement," and "regional/security organization involvement." The final model, Model VII, in the far right column contains the coefficients for the IV and all sets of control variables.

All of the control variables included are nominal scale variables, so dummy variable sets were created. The control variables "third party involvement" (Model VI) have dichotomous outcomes. The other variable sets have anywhere from three to five

outcomes, thus requiring one outcome to be excluded as a reference category. I have stated which outcome is the excluded reference category variable.

In addition, at the bottom of Tables 3 and 4, the constant, the adjusted R-square, and the sample size (N) are included.

Tables 4-11 contain results based on logistic regression analysis. The column headings and models are the same as Tables 2 and 3. The difference is that these tables contain the coefficients and the odds ratios for each of the variables included in the statistical analysis. At the bottom of Tables 4-11, I provide the constant, the Nagelkerke R-square, and the sample size (N).

Unlike linear regression, which estimates the coefficients of a linear equation that best predict the value of the dependent variable, logistic regression is useful in predicting "the presence or absence of a characteristic or outcome based on values of a set of predictor variables … where the dependent variable is dichotomous" (SPSS, 2004). The logistic regression coefficients are used to predict odds ratios for each of the independent variables included in a model.

There are other key assumptions of logistic regression that vary from those of OLS regression (http://gcrc.uchsc.edu/Documents/StatsClass/PresentSlides/GCRC%20Data%20 Analysis%20notes%205.ppt; http://www2.chass.ncsu.edu/garson/PA765/logistic.htm). Logistic regression does not assume a linear relationship between the independent and dependent variables. It does not require a normal distribution of variables. Logistic regression does not assume homogeneity of variance, or homoscedasticity. And normally distributed error terms are also not assumed. The independent variables within logistic regression can be binary, categorical, or continuous.

Logistic regression does require that observations are independent and that the independent variables be linearly related to the logit of the dependent variable (http://www2. chass.ncsu.edu/garson/PA765/logistic.htm). This is a potential problem for my statistical analysis and the data that I am using. I will address this concern in more depth in my discussion of my research limitations in my final chapter.

Although logistic regression does not have a true equivalent to the R-square statistic found in OLS regression, different versions of a "pseudo R-square" have been created. These are only descriptive measures of fit; they do not have a sampling distribution and are therefore not amenable to testing (http://staff.soc.surrey.ac.uk/ psturgis/SOCM20/0607/lecture7.pdf). One of the common versions, and one that is included in the SPSS output, is the Nagelkerke R-square. According to Nagelkerke (1991), "It is desirable to generalize the definition of R^2 to more general models, for which the concept of residual variance cannot easily be defined, and maximum likelihood is the criterion of fit" (p. 691). The Nagelkerke R-square is modification of another R-square developed by Cox and Snell. The disadvantage of the Cox and Snell R-square that Nagelkerke sought to overcome is that the Cox and Snell R-square has a maximum likelihood that can be and usually is less than 1. The Nagelkerke R-square divides the Cox and Snell R-square by its maximum in order to achieve a measure that ranges from 0 to 1 (http://www2.chass.ncsu.edu/garson/PA765/ logistic.htm; Nagelkerke, 1991). Because of this division, the Nagelkerke R-square will normally be higher than the Cox and Snell version, but it tends to be lower than the corresponding OLS R-square.

Within each pair of hypotheses, the first hypothesis, the "a" hypothesis, always pertains to crises occurring in protracted conflicts, and the second hypothesis, the "b" hypothesis, is for crises occurring in non-protracted conflicts.

Hypotheses 1a and 1b

These hypotheses examined the impact of decision maker stress on the amount of time it took for a crisis actor to respond to a crisis triggering event. I predicted that as stress levels increased, the amount of time between the perception of the crisis trigger and the crisis response in protracted conflict crises decreased. The dependent variable for these hypotheses was actually not the crisis response time variable included in the ICBP dataset due to the skewed distribution of this variable. For a dependent variable, I used the common logarithm (or simply the log), also referred to as the base 10 log, of the ICBP variable for crisis response time. Using the log transformation allowed for a more normal distribution of this time interval variable.

In the following two tables pertaining to this OLS regression, I included both the unstandardized and standardized regression coefficients, also referred to as the b coefficients and the beta weights. I included only the standardized coefficients in the discussion below.

The reduced model for H1a, seen in Table 2, shows a negative relationship between stress and time, as was predicted. With a coefficient of -.084, "stress" was significant at the .05 level. The relationship remained statistically significant with each group of control variables added. The full model coefficient for "stress" grew to -.106.

Table 2: Standardized and (Unstandardized) Coefficients for Linear Regression of Log Transformation of Crisis Response Time in Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Unstandardized coefficients marked by parenthesis).

	I	II	III	IV	V	VI	VII
Stress	-.084* (-.062)	-.079* (-.058)	-.091* (-.066)	-.110** (-.080)	-.096* (-.070)	-.102* (-.075)	-.106* (-.078)
System Polarity							
Multipolarity		.007 (.015)					.004 (.009)
World War II		-.114* (-.230)					-.155* (-.312)
Bipolarity		.039 (.057)					.026 (.038)
Polycentrism		-.108 (-.139)					-.127* (-.162)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			.017 (.022)				.093* (.120)
Military Regime			-.051 (-.080)				-.010 (-.015)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				-.007 (-.010)			-.097* (-.134)
Minor Clashes				-.130** (-.224)			-.136** (-.234)
Serious Clashes				-.055 (-.082)			-.087* (-.130)
Full War				excluded			excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					.025 (.035)		.051 (.071)
Africa					-.041 (-.070)		.026 (.045)
Europe					.022 (.033)		.039 (.057)
Americas					-.075 (-.207)		-.029 (-.080)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.114** (.187)		.125** (.206)
Same Continent					.113** (.243)		.120** (.257)
Elsewhere					.087* (.167)		.106* (.203)
Third Party Involvement							
USA Involvement						-.002 (-.002)	.020 (.030)
USSR/Russia Involvement						.139** (.181)	.059 (.076)
Global Org. Involvement						.025 (.032)	.002 (.002)
Reg./Sec. Org. Involv.						-.012 (-.015)	.006 (.008)
Constant	1.022	1.082	1.040	1.125	.968	.932	1.016
Adjusted R-Square	.005	.023	.005	.015	.027	.019	.057
N	541	541	541	541	541	541	541

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

and remained significant at the .05 level. The fact that the coefficient grew in the full model suggests a suppressor effect within the model

These results show that as decision maker stress increased in protracted conflict crises, the amount of time between the perception of the crisis trigger and the crisis response from the crisis actor decreased. This was true even with the full compliment of control variables included in the analysis. This result, in and of itself, is not entirely surprising. A majority of crisis responses do occur quickly following the onset of a crisis; almost 55% of crisis responses in protracted conflicts occur within one week of the perception of crisis trigger. But because the ICBP dataset contains crisis responses occurring at dates far past the crisis trigger, as much as 335 days for Cyprus is the 1998 Cyprus-Turkey Missile Crisis or 255 days for Libya in the 1983 crisis between Chad and Libya, I was interested in seeing if decision maker stress was a possible cause for the differences in crisis response times. The statistical analysis supports this hypothesis.

It is also useful to examine the coefficients in some of the control variables in the full model, Model VII. Nine different control variables in Table 2 Model VII have coefficients that were significant. First, the "system polarity" variables for World War II era (1939-1945) and polycentrism era (1963-1989) crises were both significant at the .05 level. The coefficients were -.115 for "World War II" and -.127 for "polycentrism," indicating that crisis response times for protracted conflict crises in these periods decreased even when controlling for the relationship with "unipolarity."

The "civilian authoritarian regimes" control variable had a coefficient of .093 with a significance level of .05. So the crisis response times for crisis actors with this type of political regime increased while still controlling for democratic political regimes.

This is an interesting result because it seems counterintuitive. It seems plausible that non-democratic regimes would have decreasing crisis response times given that the decision making apparatuses within democratic regimes usually include involvement and/or oversight from publicly elected bodies or government institutions.

All of the coefficients for "violence associated with crisis actor" variables were significant in the full model. The coefficient for "no violence" was -.097 and significant at the .05 level. "Minor clashes" was significant at the .01 level with a coefficient of -.135. Finally, "serious clashes" had a coefficient of -.087, significant at the .05 level. These negative coefficients show that after controlling for the relationship with "full war," the violence associated with the crisis actor affected the crisis response time in protracted conflict crises. An examination of the standardized coefficients shows that it was crises with minor clashes associated with the crisis actor that were the most significant.

Finally, three geographic control variables also proved to be significant. All three of these variables were in the "distance of the crisis actor from the crisis location" category. For "sub-region," the coefficient was .125, which was significant at the .01 level. For "same continent," the coefficient was .120. This was also significant at the .01 level. And for "elsewhere," the variable was significant at the .05 level with a coefficient of .106. This group of variables shows increased crisis response times after controlling for the relationship with the "home territory" variable.

For non-protracted conflict crises, as predicted, Table 4 shows that no such relationship existed between decision maker stress and crisis response time. The variable "stress" in the H1b reduced model seen in Table 3 Model I has a coefficient of -.004.

Table 3: Standardized and (Unstandardized) Coefficients for Linear Regression of Log Transformation of Crisis Response Time in Non-Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Unstandardized coefficients marked by parenthesis).

	I	II	III	IV	V	VI	VII
Stress	-.004 (-.003)	-.002 (-.001)	.000 (.000)	.009 (.007)	.008 (.005)	-.007 (-.005)	.032 (.023)
System Polarity							
Multipolarity		-.081 (-.106)					-.050 (-.066)
World War II		-.049 (-.132)					-.015 (-.041)
Bipolarity		-.095 (-.154)					-.107 (-.173)
Polycentrism		-.158* (-.191)					-.096 (-.116)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			-.020 (.024)				-.015 (-.018)
Military Regime			-.129** (-.201)				-.132* (-.207)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				-.236** (-.287)			-.174* (-.212)
Minor Clashes				-.177** (-.226)			-.109 (-.139)
Serious Clashes				-.188** (-.286)			-.110 (-.168)
Full War				excluded			excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					-.107* (-.191)		-.109* (-.195)
Africa					-.235*** (-.305)		-.215** (-.278)
Europe					-.226** (-.293)		-.234** (-.304)
Americas					-.082 (-.142)		-.063 (-.109)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.045 (.065)		.036 (.051)
Same Continent					.050 (.099)		.039 (.077)
Elsewhere					.040 (.078)		.022 (.043)
Third Party Involvement							
USA Involvement						-.006 (-.008)	-.037 (-.043)
USSR/Russia Involvement						.033 (.039)	.007 (.008)
Global Org. Involvement						.072 (.085)	.042 (.050)
Reg./Sec. Org. Involv.						.004 (.005)	-.001 (-.001)
Constant	.783	.914	.823	.992	.950	.735	1.198
Adjusted R-Square	-.002	-.001	.007	.016	.020	-.006	.029
N	403	403	403	403	403	403	403

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

The coefficient for "stress" in the full model (Model VII) was .032. None of the models for this hypothesis had results that even approached a statistically significant level. So when looking at non-protracted conflict crises, it is not possible to make any predictions about crisis response time based on the decision maker stress level of the crisis.

Even though decision maker stress was not a significant predictor of crisis response time, five control variables in Model VII had coefficients reaching significance levels of .05 or .01. For military political regimes, the crisis response time decreased after controlling for democratic regimes in non-protracted conflict crises. The coefficient for this control variable was -.132, significant at the .05 level.

For crises with no violence associated with the crisis actor as seen in Model VII, crisis response times also decreased. This variable's coefficient was -.174, also significant at the .05 level. Unlike protracted conflict crises (Table 2) in which all three of the violence control variables were significant, this is the only violence variable with a coefficient reaching a statistically significant level in non-protracted conflict crises.

The remaining three control variables in Model VII with statistically significant coefficients were all "geographic location of crisis" variables. Non-protracted conflict crises occurring in Asia, Africa, or Europe all had decreased crisis response times after controlling for the relationship with the control variable "Middle East," which was the reference category for this set of variables. For the "Asia" variable, the coefficient was -.109, which was significant at the .05 level. For crises occurring in Africa, the coefficient was -.215, significant at the .01 level.

Finally, for European crises, the coefficient was -.234. This was also significant at the .01 level. Only the "Americas" control variable did not have a coefficient reaching

significant levels in the full model. With those coefficients ranging from -.109 to -.234, compared to the .032 coefficient for "stress," it appears that the geographic location of the crisis in non-protracted conflicts is a possible influence on crisis response times and an area of potential research in the future.

Discussion of H1 – The Effect of Decision Maker Stress on Crisis Response Time

I predicted that shorter crisis response times would occur in crises with higher levels of decision maker stress. I further predicted that this negative relationship between increased stress and decreased response time would only occur in protracted conflict crises. My predictions were correct for this pair of hypotheses.

Two questions must be answered here. First, why were crisis response times reduced at higher stress levels? Second, why did this occur only in protracted conflict crises? The answer to the first question is based on the impact of cognitive functioning at various stress levels. At the higher end of the stress spectrum, decision makers are more apt to practice mechanisms and simplifications to reduce cognitive conflict (Maoz, 1997). From a cognitive psychology perspective, schemas and heuristics explain the actual processes behind these mechanisms and simplifications. Schemas are mental constructs that represent different areas of knowledge or understanding about various aspects of an environment (Rosati, 2001). These mental constructs assist individuals in interpreting and understanding new information about the world around them. Heuristics are rules or mental shortcuts used to test propositions and process information (Stein & Welch, 1997). These cognitive processes allow decision makers to quickly respond and react to complex and stressful situations. The higher the stress, the more likely they are to use these cognitive tools.

The primary reason why decision makers using cognitive shortcuts will make quicker decisions is that they are not as likely to consider every alternative (Mintz & Geva, 1997; Rosati, 2001; Smart & Vertinsky, 1977). The search for solutions is not an exhaustive search; the situation does not allow for that luxury. So leaders use cognitive processes to either accept or reject alternatives without fully considering them. Because every alternative is not examined, decision makers can respond more quickly. They do not spend valuable time considering or discussing every alternative course of action

The context and characteristics of protracted conflicts is the reason why a relationship existed between stress and response time only in protracted conflict crises. The protracted conflict setting increases the likelihood that decision makers will use cognitive conflict reducing tools. One characteristic of these cognitive processes is the tendency to use historical analogies or examples when making decisions (Jervis, 1976; Rosati, 2001). In order to simplify the decision making process, leaders will compare current situations to past situations, or they will look for similar cases in the past that might provide some insight or knowledge that is applicable to present events. Protracted conflicts are ideal settings for relying on historical examples when making decisions. Crises taking place in these settings occur in a historical framework in which the parties already have firsthand knowledge of each other. This increases the probability that leaders will use cognitive shortcuts based on prior interactions with the other countries involved. In turn, this will allow for a shorter crisis response time compared to crises occurring in non-protracted conflicts.

A historical example to illustrate these findings is the case of France in the Remilitarization of the Rhineland crisis (http://www.cidcm.umd.edu/icb/dataviewer/).

This crisis lasted from March 7, 1936, to April 16, 1936, and it took place within the France/Germany protracted conflict. This crisis is classified as having high decision maker stress.

From France's perspective, Germany triggered this crisis on March 7, 1936, when three German battalions entered and occupied the demilitarized zone of the Rhineland. France responded that same day with a political response. Specifically, France's cabinet decided to act through the League of Nations and consult the Locarno guarantors in order to achieve a German withdrawal from the Rhineland.

France's crisis response was very fast, almost immediate, in this high stress crisis situation. This crisis took place within the ongoing Franco/German protracted conflict. For the purpose of this dataset, the ICBP lists five crises from 1920 to 1936 within this protracted conflict. This conflict is, however, among the longest and most intense in the history of international relations, extending "back in time at least three centuries, much longer in the judgment of some scholars" (http://www.cidcm.umd.edu/icb/dataviewer/). So leading up to this particular crisis, a long history of interactions existed between France and Germany. Based on this history, the French leadership quickly reached a decision regarding their response to Germany's actions.

At the other end of the stress spectrum is Libya in the 1971 Chad/Libya crisis, called Chad-Libya I to distinguish it from other Chad/Libya crises (http://www.cidcm.umd.edu/icb/dataviewer/). This crisis lasted from May 24, 1971, to April 17, 1972. For Libya, the Chadian government triggered this crisis when it decided to grant positions within the government to Muslim politicians in an attempt at Christian-Muslim reconciliation. This was a low stress crisis situation for Libya. It was a crisis because

Libya's future influence in the domestic affairs of Chad, its southern neighbor, was threatened.

Libya did not respond to this crisis for 96 days. On August 27, 1971, Libya responded by backing a failed coup attempt against Chadian President Tombalbaye. Although this was a crisis for Libya, the decision maker stress level was low. Libyan leader Muammar Qaddhafi was not under pressure to react immediately and took time to formulate a response from his country.

The ICBP lists eight international crises in the Chad/Libya protracted conflict between 1971 and 1986. However, tensions between these countries, particularly with Libyan attempts to extend influence into Chad, existed before either country even achieved modern independence in the mid-twentieth century. The ongoing interactions between these countries allowed leaders to calculate crisis responses based on previous history and actions.

Hypotheses 2a and 2b

This pair of hypotheses looked at the relationship between decision maker stress and the probability of a large decision making unit. Because this and the subsequent analyses were conducted using logistic regression, the dependent variable must have a dichotomous outcome. For this pair of hypotheses, the dependent variable was "size of the decision making unit," with possible outcomes of small or large sizes. The ICBP variable for medium decision making unit size was collapsed into the large size variable. I predicted that as stress levels increased, the likelihood of a large decision making unit also increased in protracted conflict crises. As Table 4 shows, this is exactly what

happened. The coefficient for "stress" in the reduced model (Model I) was .292, significant at the .01 level. When all control variables were included, the full model (Model VII) "stress" coefficient increased to .449. This was also significant at the .01 level. As with H1a, the fact that the coefficient increased in size suggests a suppressor effect in the full model.

An interesting, yet not surprising, note to this analysis can be seen when looking at the control variables for political regime in Model VII. Both civilian authoritarian regimes and military regimes were statistically less likely to have large decision making units compared to the reference category "democratic regimes." The coefficients were -1.148 and -1.048 for "civilian authoritarian regimes" and "military regimes," respectively. The significance level for both of these variables was .001. Again, this is not necessarily a surprising outcome given the nature of non-democratic regimes. The power and decision making structure of these regime types is more likely to be consolidated to a smaller group of people.

Other control variables that appeared statistically significant in Model VII were the system polarity variables "multipolarity" and "polycentrism". These were significant at the .05 and .01 levels, respectively, when compared to the reference category "unipolarity", showing that crises occurring in protracted conflict crises during these time periods were more likely to have large decision making units.

Table 4: Coefficients and (Odds Ratios) for Logistic Regression of Large Decision Making Unit Size in Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	.292** (1.340)	.399*** (1.490)	.302** (1.352)	.274* (1.316)	.345** (1.412)	.395*** (1.484)	.449** (1.567)
System Polarity							
Multipolarity		.636 (1.889)					1.442* (4.229)
World War II		-.095 (.822)					.796 (2.218)
Bipolarity		-.389 (.290)					-.149 (.861)
Polycentrism		.605 (1.831)					1.022** (2.778)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			-.797*** (.451)				-1.148*** (.317)
Military Regime			-.530 (.063)				-1.048** (.351)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				-.167 (.846)			-.051 (.950)
Minor Clashes				-.212 (.809)			-.349 (.706)
Serious Clashes				-.204 (.815)			-.214 (.807)
Full War				excluded			excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					-.277 (.758)		-.056 (.945)
Africa					.048 (1.049)		.011 (1.011)
Europe					-.360 (.698)		-.433 (.649)
Americas					-.052 (.950)		.397 (1.488)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					-.024 (.976)		-.177 (.838)
Same Continent					-.272 (.443)		-.394 (.674)
Elsewhere					.611 (1.842)		.189 (1.208)
Third Party Involvement							
USA Involvement						-.309 (.734)	-.142 (.867)
USSR/Russia Involvement						-.215 (.806)	-.096 (.908)
Global Org. Involvement						.445 (1.560)	.496 (.071)
Reg./Sec. Org. Involv.						.227 (1.254)	.267 (1.307)
Constant	-.481	-.957	-.065	-.308	-.501	-.712	-.782
Nagelkerke R-Square	.022	.075	.062	.025	.050	.043	.172
N	410	410	410	410	410	410	410

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

For the second half of this pair of hypotheses, I predicted that no relationship existed between stress levels and decision making unit size in non-protracted conflict crises. This was not the case. As Table 5 shows, the "stress" coefficients in Models I-IV reached the .05 significance level in Models I-IV. More importantly, the "stress" coefficient in the full model (Model VII) was .470 and was significant at the .05 level. Thus, H2B is rejected. Decision maker stress is a significant predictor of larger decision making units, regardless of whether the crisis occurs in a protracted conflict or a non-protracted conflict.

The same reduced probability for large group sizes in non-democratic political regimes that was seen in protracted conflict crises (Table 4) is seen here as well. The coefficient for "civilian authoritarian regime" was -1.277, and the coefficient for "military regime" was -1.683, both significant at the .001 level.

A difference in the system polarity control variables is seen when comparing H2a and H2b as seen in Tables 4 and 5. For protracted conflict crises (Table 4), the coefficients for "multipolarity," "World War II," and "polycentrism" in Model VII were positive, although only "multipolarity" and "polycentrism" appeared to be significant. This is not the case with the non-protracted conflict crises seen in Table 5. The full model (Model VII) coefficients for both of "multipolarity" and "World War II" were negative in these cases. In particular, crises occurring in non-protracted conflicts during the World War II era were significantly less likely to have large decision making units compared to the present period of unipolarity. This was the only system polarity time period variable that appears significant in the full model for non-protracted conflict crises. The control variable "bipolarity" was not significant in either type of conflict

Table 5: Coefficients and (Odds Ratios) for Logistic Regression of Large Decision Making Unit Size in Non-Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	.344* (1.410)	.417* (1.518)	.376* (1.456)	.368* (1.445)	.288 (1.334)	.244 (1.276)	.470* (1.600)
System Polarity							
Multipolarity		-.130 (.878)					-.619 (.539)
World War II		-1.644* (.193)					-2.460** (.085)
Bipolarity		-.624 (.536)					-.866 (.421)
Polycentrism		-.120 (.887)					.347 (1.415)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			-.987*** (.373)				-1.277*** (.279)
Military Regime			-1.311*** (.270)				-1.683*** (.186)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				-.144 (.866)			-.260 (.771)
Minor Clashes				.131 (1.140)			.555 (1.742)
Serious Clashes				.126 (1.135)			.657 (1.929)
Full War				excluded			excluded

Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					-.225 (.798)		-.886 (.412)
Africa					-1.151** (.316)		-1.910*** (.148)
Europe					-.640 (.127)		-.623 (.536)
Americas					-1.267** (.282)		-2.330*** (.097)
Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.277 (1.319)		.414 (1.513)
Same Continent					.502 (1.651)		.324 (1.383)
Elsewhere					.573 (1.773)		-.112 (.894)
Third Party Involvement							
USA Involvement						-.415 (.661)	-.340 (.712)
USSR/Russia Involvement						.661* (1.937)	.082 (1.086)
Global Org. Involvement						.120 (1.128)	.256 (1.292)
Reg./Sec. Org. Involv.						.153 (1.165)	.000 (1.000)
Constant	-.968	-.873	-.383	-1.034	-.286	-.964	.764
Nagelkerke R-Square	.023	.061	.107	.028	.114	.055	.290
N	295	295	295	295	295	295	295

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

setting. And "multipolarity", which was significant for protracted conflict crises, was not in non-protracted conflict crises, although the coefficient was positive in both cases.

Another interesting result appears in two of the geographic control variables in Model VII. Non-protracted conflict crises occurring in Africa and the Americas (North, Central, and South America) were both less likely to have large decision making units when compared to those crises occurring in the Middle East, which served as the reference category for this set of variables. The coefficients for these variables reached the .001 significance levels. These were the only two geographic control variables that appeared significant in Model VII of Table 5; no geographic control variables were significant in the protracted conflict crises in Model VII of Table 4.

Discussion of H2 – The Effect of Decision Maker Stress on Decision Making Unit Size

For this pair of hypotheses, I predicted an increased probability of larger decision making units as decision maker stress increased. I predicted this increased likelihood only in protracted conflict crises. The results indicated that stress did indeed influence the size of decision making units as predicted. However, no significant difference existed between protracted conflict and non-protracted conflict crises. The increased probability of larger decision making units at higher stress levels occurred in all crises, regardless of the conflict setting. So why did this happen?

While my statistical analyses revealed a relationship between stress and the size of decision making groups during crises, no clear picture emerges within the pertinent literature as to why stress impacts group size in this manner. Results from experiments studying similar concepts support these findings. In an experiment examining the impact of stress on group status and decision making, Driskell and Salas (1991) found that

groups under stress were more receptive to information provided by others. In another experiment, Gladstein and Reilly (1985) found that while groups under threat restricted information processing, there was no change in centralization of authority. The researchers in these experiments point out, however, that their findings are somewhat limited and should be viewed with caution.

Although the work by Driskell and Salas (1991) was not specifically examining decision making units during international crises, they do offer two possible reasons for their results that can potentially be applied to mine. Social comparison is one possible explanation for increases in group size. Festinger (1954) proposed that, in general, people depend on others to assist in the evaluation of the correctness of information. In order to judge the merit of their own opinions and decisions, leaders must be able to compare themselves and their actions with those of other individuals. To do this, leaders need other people involved in the decision making process. This social comparison cannot happen if leaders make decisions in seclusion. Research by Taylor, Buunk, and Aspinwall (1990) showed that this desire for social comparison increases in stressful and threatening situations. This suggests that as stress increases, leaders experience an increased need to evaluate their ideas in relation to the thoughts and ideas of other people. By enlarging the size of the decision making unit, more possibilities exist for social comparison.

A second possible reason for increased group size is that leaders desire to share or diffuse decision making responsibility during times of increased stress (Driskell & Salas, 1991). In crisis situations, the consequences of poor decision making are often profound. Increasing the size of the decision making unit could be an attempt to share the burden of

this responsibility or even deflect blame to others if the outcome is not satisfactory or desirable.

A historical example of large group size in a very high stress crisis is the United States during the Cuban missile crisis, arguably one of the most widely studied crises in history (Welch, 1989). The group of advisors assembled by President Kennedy on October 16, 1962, eventually became known as the Executive Committee of the National Security Council, or ExComm for short. This decision making group was officially established by National Security Action Memorandum 196 (http://www.jfklibrary.org/jfkl/cmc/cmc_misc_transcripts.html). ExComm consisted of President Kennedy and 12 other principle members, as well as numerous advisors. Nine members of ExComm were the regular National Security Council (NSC) members. Four additional members were brought in to supplement the NSC. This case is a classic example of a leader surrounding himself with not only his most trusted advisors, but also additional individuals who were seen as valuable assets to the decision making process.

Hypotheses 3a and 3b

These hypotheses concern an area that garners much attention in the study of conflicts, the use of violence. The dependent variable for this pair was "crisis response," with a dichotomous outcome of violent and non-violent responses. An additional selection variable was included in these models. Only cases with non-violent crisis triggers were included in the analyses. The goal of this analysis was to determine if stress levels impacted the probability of crisis actors violating the norm of matching behavior between crisis trigger and crisis response.

Before continuing with this discussion, it should be noted that this pair of hypotheses was the only set not containing the control variables found in Model IV. The reason is that the control variables in that model measure the severity of violence associated with crisis actors during a crisis. So some of the same factors included in the predictor control variables are also found in the dependent variable, thus creating a situation which would negatively influence the accuracy and outcome of the analysis if included.

I predicted that as stress levels increased, the probability of a violent crisis response to a non-violent crisis trigger in protracted conflict crises decreased. Table 6 shows that this was not the case, thus leading to the rejection of H3a. The "stress" coefficient for Model I with only the dependent and independent variables included in the analysis was -.351. This was significant at the .05 level. However, none of the additional models, including the full model seen in Model VII, were significant. The coefficient for "stress" in the full model was -.122. So decision maker stress had no impact on the probability, decreased or increased, of violent crisis responses to non-violent crisis triggers in protracted conflict crises.

Four different control variables were significant in Model VII of Table 6. The first variable was "bipolarity." This control variable was significant at the .001 level with a coefficient of -1.497 showing that crises during this time were significantly less likely to have violent crisis responses to non-violent triggers compared to crises occurring during the unipolarity time period.

The next control variable which proved to be significant was one of the variables for the geographic location of crisis. Crises occurring in Asia were significantly more

Table 6: Coefficients and (Odds Ratios) for Logistic Regression of Violent Crisis Response to Non-violent Crisis Trigger in Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	-.351* (.704)	-.257 (.774)	-.296 (.743)		-.325 (.722)	-.307 (.735)	-.122 (.885)
System Polarity							
Multipolarity		-.991* (.371)					.296 (1.344)
World War II		-.376 (.687)					1.028 (2.796)
Bipolarity		-1.408*** (.245)					-1.497*** (.224)
Polycentrism		-.557 (.573)					-.493 (.611)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			-.395 (.673)				-.530 (.588)
Military Regime			.414 (1.513)				.064 (1.066)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence							excluded
Minor Clashes							excluded
Serious Clashes							excluded
Full War							excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					.259 (1.296)		.885* (2.422)
Africa					-.494 (.601)		-.246 (.782)
Europe					-.713 (.490)		-.887 (.412)
Americas					-2.278* (.102)		-1.841 (.159)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.377 (1.458)		.405 (1.499)
Same Continent					1.042* (2.836)		1.047* (2.849)
Elsewhere					.572 (1.772)		.102 (1.108)
Third Party Involvement							
USA Involvement						.243 (1.275)	-.063 (.939)
USSR/Russia Involvement						-.034 (.966)	.407 (1.503)
Global Org. Involvement						.966** (2.627)	1.053** (2.868)
Reg./Sec. Org. Involv.						.294 (1.342)	.740 (2.095)
Constant	-.046	.466	-.113		-.099	-1.087	-1.283
Nagelkerke R-Square	.027	.095	.048		.104	.101	.262
N	283	283	283		283	283	283

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

likely to have violent crisis responses to non violent crisis triggers compared to crises occurring in the Middle East. The coefficient was .885 and was significant at the .05 level. This is a somewhat unexpected outcome given the volatile nature of many Middle East conflicts.

Another geographic control variable of interest in this hypothesis was "distance of crisis actor from crisis location." Crises occurring on the same continent were more likely to experience violent crisis responses to non-violent crisis triggers compared to the reference category "home territory." The coefficient for this variable was 1.047. As with the previous control variable mentioned, this was also significant at the .05 level.

Finally, the involvement of third parties in crises, in this case global organizations, was also linked to increased probability of violent crises responses. The coefficient for this variable was 1.053 and was significant at the .01 level. So for protracted conflict crises in which global organizations, such as the United Nations, were involved, there was a higher likelihood of a violent crisis response to a non-violent crisis trigger when compared to crises in which there was not any global organization involvement.

The second half of this hypothesis pair examined the impact of stress on the probability of violent crisis responses in non-protracted conflict crises. I predicted that no relationship existed between increasing stress levels and the likelihood of violent crisis responses to non-violent crisis triggers. This proved not to be the case as shown in Table 7, resulting in the rejection of H3b. While the basic reduced model (Model I) was not significant, the full model (Model VII) was in fact significant with a coefficient of -.539, again showing evidence of a suppressor effect in the full model. This was significant at

Table 7: Coefficients and (Odds Ratios) for Logistic Regression of Violent Crisis Response to Non-violent Crisis Trigger in Non-Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	-.250 (.779)	-.266 (.767)	-.249 (.779)		-.209 (.811)	-.439* (.645)	-.539* (.583)
System Polarity							
Multipolarity		-.963 (.382)					.963 (2.619)
World War II		-2.066 (.127)					-1.023 (.360)
Bipolarity		-1.477** (.228)					-1.814** (.163)
Polycentrism		-1.658*** (.190)					-1.587* (.204)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			.114 (1.121)				.465 (1.592)
Military Regime			.153 (1.165)				.076 (1.079)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence							excluded
Minor Clashes							excluded
Serious Clashes							excluded
Full War							excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					.474 (1.606)		.926 (2.525)
Africa					-.729 (.482)		.376 (1.457)
Europe					-.551 (.576)		-.478 (.620)
Americas					-.584 (.558)		.228 (1.256)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					-.665 (.514)		-1.315* (.268)
Same Continent					-1.115 (.328)		-1.873* (.154)
Elsewhere					.307 (1.359)		.191 (1.210)
Third Party Involvement							
USA Involvement						.469 (1.599)	.656 (1.928)
USSR/Russia Involvement						.967** (2.630)	1.346** (3.843)
Global Org. Involvement						.089 (1.093)	.067 (1.069)
Reg./Sec. Org. Involv.						.093 (1.097)	.956 (2.602)
Constant	-.772	.426	-.851		-.354	-1.213	-1.038
Nagelkerke R-Square	.010	.089	.011		.097	.092	.298
N	249	249	249		249	249	249

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

the .05 level, indicating that as stress levels increased in non-protracted conflict crises, the likelihood of violent crisis responses to non-violent crisis triggers decreased.

An examination of the control variables reveals some similarities between the results for H3a and H3b. As with Table 6, the variables "bipolarity" and "same continent" were also significant in Table 7. The coefficient for "bipolarity" was -1.814, significant at the .01 level. Interestingly, the coefficient for "same continent" went from negative to positive with a value of -1.873 in Table 7. So crisis actors in crises occurring in non-protracted conflicts on the same continent were less likely to respond with violence to non-violent triggers compared to crises occurring on home territory. This was the opposite of crises occurring on the same continent within protracted conflicts as shown in Table 6.

There were three additional control variables that were statistically significant for H3b. The full model as shown in Model VII in Table 7 shows that non-protracted conflict crises occurring during the polycentrism period were less likely to experience violent crisis responses to non-violent crisis triggers compared to the reference category "unipolarity." The coefficient was -1.587 and was significant at the .05 level.

The control variable "sub-region" in Model VII also showed significance at the .05 level with a coefficient of -1.315. Therefore crises occurring within the same geographic sub-region during non-protracted conflicts were less likely to have violent responses to non-violent crisis triggers compared to crises occurring on home territories.

Finally, the full model in Table 7 shows that non-protracted conflict crises in which the USSR or Russia were involved had a higher probability of experiencing a

violent crisis response to non-violent triggers. The coefficient for this variable was 1.346 and was significant at the .01 level.

Discussion of H3 – The Effect of Decision Maker Stress on Violent Crisis Responses to Non-violent Crisis Triggers

I predicted an increased probability of violent crisis responses to non-violent crisis triggers as stress decreased within protracted conflict crises. I predicted that this relationship would not exist in non-protracted conflict crises. The analyses revealed that the opposite actually occurred. A statistically significant relationship existed between decreasing stress levels and an increasing probability of violent crisis responses to non-violent crisis triggers only in non-protracted conflict crises and not in protracted conflict crises. While the relationship between stress and crisis response was expected, it was an interesting and unexpected outcome for that to occur in the context of non-protracted conflict crises.

As with the H1 hypotheses, cognitive psychology is the basis for the theoretical rationale behind the relationship between decision maker stress and the dependent variable. In general, apart from some other factors, crisis actors are expected to match their crisis response to the crisis trigger (Brecher & Wilkenfeld, 2003). It is the interaction between stress and cognitive functioning that explains the breakdown in matching behavior at lower stress levels. At higher stress levels, decision makers are even more restrained and inhibited in their actions because of the nature of the cognitive coping strategies used during high stress situations. Leaders tend to believe that they have fewer options available to them during these times (Holsti, 1965). Stress contributes to a more closed decision-making process in which decision makers

experience increased cognitive rigidity, more reliance on familiar decision rules, and a higher probability of limiting their choices and responses, both in terms of the number of possible alternatives and the type of alternatives (Maoz, 1997; Nutt, 1992; Rosati, 2001). Decision making under high stress is not likely to be creative or innovative.

The impact of cognitive functioning at lower stress levels increases the probability of a breakdown in matching behavior. When the stress during a crisis is only moderate, decision makers have the opportunity to critically and carefully explore their available options (Maoz, 1997). Cognitive functioning is not as constrained or impaired as stress decreases. As decision maker stress reaches truly low levels, additional explanations for decreased matching behavior appear. If the stress level is too low, leaders are less likely to pay enough attention to the crisis situation (Maoz, 1997). Decision making authority may shift to other people who do not see the implications of overreacting to a crisis trigger. Also, responding to a non-violent crisis trigger with a violent crisis response is not considered as dangerous or risky an option in low stress situations (Brecher & Wilkenfeld, 2003).

While it is interesting that matching behavior did not occur in low stress crises, it is more interesting that matching behavior did not occur in non-protracted conflict crises instead of protracted conflict crises, as predicted. With no regard to stress levels, the percentage of violent crisis responses to non-violent crisis triggers was similar in both protracted and non-protracted conflict crises. In the protracted conflict crises, 29% of crisis responses to non-violent triggers were violent, while 20.5% of crisis responses to non-violent triggers in non-protracted conflict were violent. Yet as stress levels decreased, the significant relationship between stress and response only existed in the

non-protracted conflict crises. Perhaps the nature of protracted conflicts explains this outcome. Violence is a common and likely characteristic of these conflicts (Brecher & Wilkenfeld, 2003; Coleman, 2000). Due to the propensity for violence in these settings, decision maker stress may not be a powerful enough factor to influence the use or lack of use of violence in protracted conflict crises. Non-protracted conflict crises, however, are more likely to be "normal" crises in which the impact of different stress levels on cognitive functioning and decision making is more clearly seen.

Syria's role in the Black September crisis of 1970 is an example of a crisis actor responding with violence to a non-violent crisis trigger in a non-protracted conflict crisis (http://www.cidcm.umd.edu/icb/dataviewer/). From Syria's perspective, this was a low stress crisis triggered by the September 15, 1970, announcement by Jordan's King Hussein that he was drastically changing the composition of his Cabinet. This crisis took place in the midst of ongoing tension and fighting between the Jordanian military and Palestinian military factions. On September 19, Syria invaded Jordan by sending in tanks to battle Jordanian troops and to support the Palestinian fighters. The reason for Syria's military response to a non-violent political act may have been a fear of losing its influence in the region (http://www.cidcm.umd.edu/icb/dataviewer/). Syria may have viewed the situation as an opportunity to reassert itself in the Middle East. Another possible reason could be due to the profound differences between Syria's then military leader and shortly thereafter president, Hafez al-Assad, and Jordan's King Hussein (Seale & Butler, 1996). Assad viewed Hussein's willingness to communicate and cooperate with Israel as a betrayal of Arab interest. Regardless of the specific reasons, this is an example of a crisis actor not constrained in its actions or decisions. If anything, Syria's

actions seem quite calculated. Facing no threat of violence or military action from Jordan, Syria opportunistically chose to use military force and violence to confront a political dilemma.

Hypotheses 4a and 4b

The final two pairs of hypotheses examined the impact of stress on crisis outcomes. H4a and H4b dealt with the relationship between stress levels and the likelihood of definitive outcomes following crises. Specifically, I predicted that as stress levels increased in protracted conflict crises, the probability of a definitive, as opposed to an ambiguous, outcome also increased.

Table 8 reveals interesting results for this hypothesis. The full model (Model VII) stress variable has a coefficient of .177 which did not reach a significance level of .05. This leads to the rejection of H4a. But an examination of the reduced models shows the dependent variable coefficients reached significance levels of .01 or .001 in five of the six reduced models. Only in Model II did "stress" not reach a significance level of .05. In fact, the SPSS results indicated that the significance level of "stress" in Model II was .060, thus it was approaching but not quite reaching a statistically significant level. And within Model II, only one of the system polarity control variables, "World War II," appears strong enough to influence the outcome of the Model II analysis.

In the full model seen in Model VII of Table 8, three control variables appear to be significant. Two of those variables were the violence associated with a crisis actor variables "no violence" and "minor clashes." The coefficients were .640 for "no

Table 8: Coefficients and (Odds Ratios) for Logistic Regression of Definitive Outcomes in Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	.346*** (1.413)	.205 (1.228)	.350*** (1.419)	.327** (1.387)	.285** (1.329)	.312** (1.366)	.177 (1.194)
System Polarity							
Multipolarity		.209 (1.232)					.712 (2.039)
World War II		1.312** (3.712)					1.929*** (6.881)
Bipolarity		-.037 (.964)					.070 (1.072)
Polycentrism		-.288 (.750)					-.131 (.877)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			-.300 (.741)				-.196 (.822)
Military Regime			-.195 (.823)				-.102 (.903)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				.399 (1.490)			.640* (1.896)
Minor Clashes				.218 (1.244)			.620* (1.858)
Serious Clashes				-.146 (.864)			.136 (1.146)
Full War				excluded			excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					-.436 (.647)		-.459 (.632)
Africa					-.241 (.786)		-.062 (.939)
Europe					.070 (1.073)		-.479 (.620)
Americas					-.030 (.971)		-.381 (.683)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.006 (1.066)		-.042 (.959)
Same Continent					.833* (2.299)		.697 (2.009)
Elsewhere					.683* (1.981)		.340 (1.404)
Third Party Involvement							
USA Involvement						.114 (1.121)	-.019 (.981)
USSR/Russia Involvement						.140 (1.150)	.360 (1.433)
Global Org. Involvement						-.516* (.597)	-.136 (.873)
Reg./Sec. Org. Involv.						.183 (1.201)	.315 (1.371)
Constant	-.564	-.221	-.410	-.634	-.409	-.425	-.640
Nagelkerke R-Square	.029	.078	.034	.042	.069	.046	.138
N	541	541	541	541	541	541	541

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

violence" and .620 for "minor clashes," both of which were significant at the .05 level. So compared to the reference category "full war," protracted conflict crises with no violence or minor violence associated with the crisis actor were significantly more likely to end with a definitive outcome.

The most revealing control variable in Model VII of Table 8 and the reason for the stress variable not reaching a statistically significant level was the system polarity variable "World War II." Protracted conflict crises occurring in this time period were significantly more likely to result in a definitive outcome compared to crises occurring in the present unipolarity period. The coefficient for this variable was 1.929 and was significant at the .001 level.

When I completed a secondary analysis of H4a with the system polarity variables excluded from the full model, the significance level of stress reached the .05 level with a coefficient of .269. (This analysis is not included in Table 8, but was conducted in order to see the results when the system polarity variables were not included.)

Table 9 shows the results for H4b. I predicted that no relationship existed between stress levels and the probability of a definitive outcome in non-protracted conflicts. This table shows that this was indeed what occurred. The full model (Model VII) "stress" coefficient was .070 and was not significant. Only the reduced Model V had a "stress" coefficient that was significant at the .05 level. It should be noted, however, that because H4a was rejected, the meaningfulness of the H4b results are questionable. When considering the full model (Model VII) results of H4a and H4b, there was not a significant relationship between stress levels and definitive outcomes, regardless of whether the crises occur in protracted or non-protracted conflicts.

Table 9: Coefficients and (Odds Ratios) for Logistic Regression of Definitive Outcomes in Non-Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	.228 (1.256)	.124 (1.132)	.218 (1.243)	.195 (1.215)	.280* (1.323)	.110 (1.116)	.070 (1.073)
System Polarity							
Multipolarity		.504 (1.655)					.724 (2.062)
World War II		2.038* (7.671)					2.174* (8.791)
Bipolarity		.728 (2.070)					.733 (2.081)
Polycentrism		.374 (1.453)					.588 (1.800)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			.386 (1.471)				.667* (1.948)
Military Regime			-.074 (.929)				.296 (1.344)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				-.399 (.671)			-.544 (.580)
Minor Clashes				-.976** .377			-1.020* (.360)
Serious Clashes				-.314 (.731)			-.325 (.723)
Full War				excluded			excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					-.937* (.392)		-.921* (.398)
Africa					-.303 (.738)		-.015 (.986)
Europe					-.194 (.604)		-.226 (.798)
Americas					-.297 (.743)		.020 (1.020)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.309 (1.362)		.227 (1.254)
Same Continent					.135 (1.144)		.178 (1.195)
Elsewhere					1.080* (2.944)		1.269* (3.557)
Third Party Involvement							
USA Involvement						.513* (1.671)	.571* (1.770)
USSR/Russia Involvement						.430 (1.538)	.349 (1.418)
Global Org. Involvement						-.446 (.640)	-.435 (.648)
Reg./Sec. Org. Involv.						-.229 (.795)	-.239 (.788)
Constant	.027	-.202	-.104	.626	.050	.125	-.148
Nagelkerke R-Square	.011	.044	.024	.046	.063	.051	.174
N	406	406	406	406	406	406	406

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Within the full model (Model VII) of Table 9, six control variables reached significance levels of .05. The system polarity variable "World War II" is again significant with a coefficient of 2.174. The variable for minor violence associated with a crisis actor is also significant, although the coefficient went from positive to negative in Table 9. The coefficient for this variable in non-protracted conflict crises is -1.020 indicating that crises with minor clashes associated with crisis actors were less likely to experience a definitive outcome compared to crises in which a full war level of violence was associated with the crisis actors. Although this variable was significant in both H4a and H4b, the coefficient was negative for non-protracted conflict crises instead of positive as seen for protracted conflict crises.

The control variable "civilian authoritarian regimes" had a coefficient of .667, which was significant at the .05 level. This indicates that non-protracted conflict crises in which the crisis actor has a civilian authoritarian political regime were more likely to experience a definitive outcome when compared to the reference category "democratic regimes."

Two geographic control variables in Model VII of Table 9 also had coefficients which were significant at the .05 level. The coefficient for "Asia" was -.921 showing a decreased likelihood of definitive outcome compared to Middle East crises. The second geographic control variable of interest was "distance of crisis actor from crisis location." Crises occurring elsewhere appear to be more likely to end in a definitive outcome compared to those occurring on home territory. The coefficient for this variable was 1.269.

The final significant control variable in Model VII of Table 9 was "USA Involvement." Crises in which the United States was involved were more likely to end with a definitive outcome. The coefficient for this variable was .571 and was significant at the .05 level.

Discussion of H4 – The Effect of Decision Maker Stress on Crisis Outcome

For this pair of hypotheses, I predicted an increased probability of a definitive outcome in protracted conflict crises as decision maker stress increased. I further predicted that this relationship would not exist in non-protracted conflict crises. The results show that when all control variables are included, no relationship existed between decision maker stress and the likelihood of a definitive outcome, regardless of the conflict setting. Even though I was correct in my prediction that no relationship would exist in non-protracted conflict crises, any value in this outcome is negated by the fact that no relationship existed in protracted conflict crises either.

More than any of other pair, these hypotheses were more theory-building than theory-testing. I found very little literature or research regarding the effect of decision maker stress on crisis outcome. Holsti (1965) found that during high stress, leaders are more concerned about the immediate future compared to the distant future. Because of this concern for the immediate future and short-term issues (Smart and Vertinsky, 1977), I suspected that increasing decision maker stress might cause leaders to make choices that contributed to an immediate definitive outcome. The rationale was that a short-term versus long-term focus would cause leaders to work towards a definitive outcome in the near future rather than risk the possible outcomes in the unknown distant future.

Even though the full model results did not support H4a, all of the reduced models except one were statistically significant. The reduced model with the system polarity control variables was the only model that was not significant. And when I ran a full model analysis without any of the system polarity variables, the results were significant. This indicates that while the decision maker stress variable is not strong enough to influence the probability of a definitive or ambiguous outcome, it does appear to play some role in the outcome. Future research might yield a better understanding of the relationship between stress and the outcome of crisis situations.

Because these hypotheses were not statistically significant, no historical examples are included in this analysis.

Hypotheses 5a and 5b

Table 10 shows the results of the logistic regression for H5a. I predicted that no significant relationship exists between stress levels and tension between adversaries following a protracted conflict crisis. The results do support this hypothesis. The "stress" coefficient was not significant in any of the models. The coefficient for this variable in the full model (Model VII) was .004. So in protracted conflict crises, decision maker stress had no capability of predicting post-crisis tension levels between adversaries.

Seven of the control variables included in Model VII of Table 10 were significant. These control variables appear in the categories for system polarity, violence associated with crisis actor, geography, and third party involvement. The coefficients for

Table 10: Coefficients and (Odds Ratios) for Logistic Regression of Increased Tension Following Crisis in Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	-.073 (.930)	-.120 (.886)	-.053 (.948)	-.116 (.890)	.012 (1.012)	.008 (1.008)	.004 (1.004)
System Polarity							
Multipolarity		-1.168* (.311)					-.693 (.500)
World War II		-.162 (.850)					-.286 (.751)
Bipolarity		-1.929*** (.145)					-2.103*** (.122)
Polycentrism		-1.102* (.332)					-1.612*** (.200)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			.027 (1.027)				-.076 (.927)
Military Regime			.402 (1.495)				.146 (1.157)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				-.716** (.489)			-.418 (.659)
Minor Clashes				-1.247*** (.287)			-1.061** (.346)
Serious Clashes				-.397 (.672)			-.428 (.652)
Full War				excluded			excluded

Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					.142 (1.153)		.362 (1.437)
Africa					.593 (1.809)		.648 (1.912)
Europe					-.433 (.648)		-.857* (.424)
Americas					-1.639*** (.194)		-1.520** (.219)
Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.083 (1.087)		.052 (1.053)
Same Continent					.626 (1.871)		.989* (2.689)
Elsewhere					.355 (1.426)		.450 (1.569)
Third Party Involvement							
USA Involvement						-.007 (.993)	-.056 (.946)
USSR/Russia Involvement						-.582** (.559)	-.536* (.585)
Global Org. Involvement						.244 (1.276)	.353 (1.424)
Reg./Sec. Org. Involv.						.124 (1.132)	.310 (1.363)
Constant	.539	1.831	.399	1.162	.284	.521	2.158
Nagelkerke R-Square	.001	.100	.009	.059	.080	.023	.230
N	518	518	518	518	518	518	518

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

"bipolarity" and "polycentrism" were -2.103 and -1.612, respectively, and were both significant at the .001 level. This indicates that protracted conflict crises occurring during these time periods were statistically less likely to experience increased tension levels compared to the reference category of crises occurring in the unipolarity period.

The coefficient for "minor clashes" was -1.061 and was significant at the .01 level. So compared to protracted conflict crises with full war levels of violence, those crises with only minor levels of violence were less likely to have increased tension levels between adversaries following a crisis.

Three geographic control variables in the full model (Model VII) in Table 10 had coefficients which were significant. Protracted conflict crises occurring in Europe were less likely than Middle East crises to have increased tension levels between adversaries after the crisis. The coefficient for this variable was -.857 and was significant at the .05 level. Crises occurring in North, Central, or South America were also less likely to see increased tension following a crisis compared to Middle East protracted conflict crises. The coefficient for this control variable was -1.520. This was significant at the .001 level.

The third geographic variable was for protracted conflict crises occurring on the same continent as the crisis actor. These crises were statistically more likely to have increased levels of tension when compared to the reference category "home territory." This coefficient was .989 and was significant at the .05 level.

Finally, for protracted conflict crises in which the USSR or Russia were involved, there was a decreased probability of increased tension following the crisis. The coefficient for this control variable was -.536. This was significant at the .05 level.

The second half of this hypothesis pair examined the relationship between stress and post-crisis tension levels in non-protracted conflict crises. I predicted that as stress levels increased in these crises, the probability of increased tension levels between adversaries also increased. Table 11 shows that this is in fact what occurred. This was the only hypothesis predicting a significant relationship in non-protracted conflict crises instead of those in protracted conflicts.

The "stress" coefficients were significant at the .001 level for every model. There was little change from the basic reduced model (Model I) and the full model (Model VII). The coefficient for the independent variable "stress" in Model I was .617. In Model VII, the coefficient was .615. So as stress levels increased in non-protracted conflict crises, crisis actors were much more likely to experience an increase in tension levels between adversaries following a crisis. This appears true despite the fact that four control variables were significant with negative coefficients.

As with full model (Model VII) for H5a in Table 10, two of the system polarity variables in Model VII of Table 11 had coefficients that were significant at the .001 level. The coefficient for "bipolarity" was -2.517, and the coefficient for "polycentrism" was -1.700. For non-protracted conflict crises occurring in these two time periods, there was a decreased likelihood of increased tension levels compared to those crises occurring in the unipolarity time period.

Two of the geographic location variables in Model VII of Table 11 were also significant, one at the .001 level and one at the .05 level. The coefficient for "Europe" was -1.633 indicating that non-protracted conflict crises located here were less likely than crises occurring in the Middle East to experience an increased tension level between

Table 11: Coefficients and (Odds Ratios) for Logistic Regression of Increased Tension Following Crisis in Non-Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	.617*** (1.853)	.610*** (1.841)	.620*** (1.858)	.556*** (1.743)	.586*** (1.798)	.620*** (1.859)	.615*** (1.850)
System Polarity							
Multipolarity		-.585 .557					-.314 (.730)
World War II		-.980 (.375)					-.702 (.496)
Bipolarity		-2.321*** (.098)					-2.517*** (.081)
Polycentrism		-1.401*** (.246)					-1.700*** (.183)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			-.118 (.889)				-.146 (.864)
Military Regime			-.004 (.996)				-.072 (.931)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				.475 (1.608)			1.168* (3.216)
Minor Clashes				-.440 (.644)			.076 (1.079)
Serious Clashes				-.452 (.636)			-.241 (.786)
Full War				excluded			excluded

Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					-.298 (.742)		-.238 (.789)
Africa					-.244 (.793)		.039 (1.040)
Europe					-.655 (.519)		-1.633*** (.195)
Americas					-1.405** (.245)		-1.139* (.320)
Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.445 (1.561)		.087 (1.091)
Same Continent					1.298*** (3.661)		.993* (2.699)
Elsewhere					-.292 (.747)		-.606 (.546)
Third Party Involvement							
USA Involvement						-.790** (.454)	-.406 (.667)
USSR/Russia Involvement						.085 (1.088)	.155 (1.168)
Global Org. Involvement						-.131 (.877)	-.128 (.880)
Reg./Sec. Org. Involv.						-.014 (.956)	.366 (1.442)
Constant	-2.138	-1.030	-2.092	-1.982	-1.817	-1.734	-.736
Nagelkerke R-Square	.072	.180	.073	.121	.148	.117	.306
N	388	388	388	388	388	388	388

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

adversaries after a crisis. This was significant at the .001 level. There was also a decreased likelihood of increased tension levels for crises occurring in the Americas compared to the Middle East. The coefficient for this control variable was -1.139 and was significant at the .05 level. These two variables were also significant with negative coefficients in protracted conflict crises as shown in Table 10.

Another geographic variable with a coefficient reaching a significance level of .05 in Model VII was "same continent." So for non-protracted conflict crises in which the crisis actor was on the same continent as the crisis, there was increased likelihood of increased tension levels following a crisis compared to crisis occurring on a crisis actor's home territory. The coefficient for "same continent" was .993. This variable was significant at the .05 level, just as it was with protracted conflict crises.

The final control variable of note is the variable "no violence." The coefficient for this variable was 1.168 and was significant at the .05 level. For non-protracted conflict crises in which no violence was associated with the crisis actor, there is an increased probability of higher tension levels following the crisis compared to cases in which full war levels of violence were associated with the crisis actor. In some ways, this seems to be an unlikely outcome. It would appear logical to think that crises with the highest level of violence associated with the crisis actors would be more likely to experience increased tension between adversaries following a crisis, but that was not the case.

Discussion of H5 – The Effect of Decision Maker Stress on Post-crisis Tension Levels

For this final pair of hypotheses, I predicted an increased probability of higher post-crisis tension levels as stress increased in non-protracted conflict crises. I predicted

that no such relationship would occur in protracted conflict crises. This was the only pair of hypotheses in which I predicted the significant relationship occurring only in non-protracted conflict crises. The results of the analyses show that my predictions were correct.

As with the H4 pair of hypotheses, this pair examined the impact of decision maker stress on a crisis outcome, not on leaders' direct actions or behaviors in the midst of a crisis, thus making the results even more interesting. While a clear connection between stress levels and post-crisis tension levels may seem rather vague, the fact that the significance level of the full model for H5b was at the .001 level indicates that such a relationship must be present.

One possible explanation for this relationship is the interaction between stress levels and cognitive functioning. At higher levels of stress, decision makers are more likely to exhibit cognitive strategies such as reduced communication with adversaries, increased stereotyping, increased cognitive rigidity, limited search for alternatives, and increased probability of polarized choices (Rosati, 2001). In a high stress, post-crisis situation, adversaries using these cognitive coping strategies are not likely to "come down" from tension levels that occurred during the crisis. In particular, the lack of communication and the increase in stereotyping may compel crisis actors to maintain a vigilant and suspicious stance in relation to adversaries. Stereotypes and generalizations are necessary cognitive coping techniques. "They are thinking devices which enable us to avoid conceptual chaos by packaging our world into manageable number of categories" (Bem, 1970, p. 8). So in the complexity of post-crisis interactions, stereotyping is a cognitive tool that helps leaders cope with the situation.

The nature of stereotyping, generalizing, and the other cognitive strategies mentioned above, however, works against effective conflict management strategies and efforts to reduce tension levels to pre-crisis levels. Once a new status quo, such as increased tension or hostility, is established between adversaries, it is difficult for that to change (Bercovitch & Diehl, 1995). Just as there is no reason to expect crisis actors to break from matching behavior without a significant reason, as discussed with the H3 hypotheses, there is no reason to expect the tension level between adversaries, the Normal Relations Range, to change without something extraordinary occurring (Azar, 1972; Goertz & Diehl, 1995). Experiencing a crisis is not, in itself, enough to change the tension levels. Crises occur between crisis actors, and the tension levels often decrease after the crisis. In fact, in approximately 50% of all crises in the ICBP data set, a reduction of tension occurs after the crisis. This percentage increases to 66% in non-protracted conflict crises. Increasing levels of decision maker stress explains why tension levels increase after a crisis, particularly in the non-protracted conflict crises.

Within protracted conflict crises, I successfully predicted that no such relationship existed between decision maker stress and increased post-crisis tension levels (H5a). The number of crisis actors experiencing an increase in tension levels between adversaries following a crisis is quite high in this conflict setting, approximately 59%. While decision maker stress might have some influence, it is not a strong enough factor to be statistically significant in explaining the reason for these increased tension levels.

An example of a high stress non-protracted conflict crisis with post-crisis increased tension levels is the 1993-1994 territory dispute between Cameroon and Nigeria, called Cameroon-Nigeria III in the ICBP data set (http://www.cidcm.umd.edu/

icb/dataviewer/). As with many African countries, the border between Cameroon and Nigeria is somewhat vague and porous. These two countries have had several conflicts over the border and territory, but the countries are not in a protracted conflict. This particular crisis began in December 1993 when Cameroonian troops raided a fishing village in the disputed border area of Bakassi and killed six Nigerians. Nigeria responded by sending troops to two Cameroonian islands in the oil-producing region of the Gulf of Guinea. Cameroon responded by dispatching its own troops in an attempt to retake the islands. Eventually, third parties such as France and the Organization of African Unity became involved with attempts to resolve this crisis. The crisis eventually faded as both parties accepted the status quo. The tension level, however, was higher after the crisis. Violence erupted over Bakassi again in April 1996, but did not escalate into a crisis as defined by the ICBP. In June 2006, the two nations finally resolved their dispute over this territory with the assistance of the United Nations (Nigeria, Cameroon, 1996). It is worth noting that in two previous border dispute crises between these countries in 1981 and 1987 both countries experienced a reduction of tension following the crises. The decision maker stress for both of those crises was medium, not high as it was in the 1993-1994 crisis.

At the other end of the stress spectrum, the United Kingdom experienced two low-stress crises with Iceland in 1973 and 1975-1976 (http://www.cidcm.umd.edu/icb/dataviewer/). The Cod Wars, as these crises became known, were caused by disputes over fishing rights in waters that Iceland considered part of its territory. In the first Cod War in 1971, Iceland unilaterally decided to extend its territorial waters from 12 miles to 50 miles. This move impacted the fishing industry of Great Britain. Although there was

military posturing by both sides, as well as some minor clashes, major violence was not a characteristic of this crisis. In November, 1971, the Icelandic parliament approved an agreement whereby Iceland set aside certain areas within its 50 mile water limit for British fishers, thus ending the crisis for these two NATO allies.

The similar Cod War II began in 1975 when Iceland announced that it was extending its territorial waters to 200 miles of the Icelandic coast. Iceland further declared that no foreign fishing vessels could fish inside this 200 mile limit. As with the previous crisis, minor clashes occurred between the two countries. In addition, Iceland broke off diplomatic relations with the United Kingdom on February 18, 1976. After negotiation and mediation, the two countries reached an agreement on June 1, 1976, ending the crisis.

Both of the crisis actors in these two crises experienced a reduction in tension following the resolution of the disputes. Because these were low stress crises, even with the minor clashes, it was possible for the parties involved to cope effectively with the situations. The countries were able to keep communication lines open, and both sides were committed to peacefully resolving these disputes. The relationship between Iceland and the United Kingdom as NATO allies was also a likely reason that the stress level was able to remain low, thus facilitating peaceful resolutions and reductions of tension levels.

Summary

Even though some of my hypotheses were rejected, in general, I believe that this research has generated interesting results. Table 12 below provides a summary of which

Table 12: Hypotheses Results

Hypothesis	Statistically Significant?	Hypothesis Supported?
H1a - As stress levels increase in protracted conflict crises, the amount of time between crisis trigger and crisis response decreases.	Yes	Yes
H1b - As stress levels increase in non-protracted conflict crises, there is no relationship between stress levels and amount of time between crisis trigger and crisis response.	No	Yes
H2a - As stress levels increase in protracted conflict crises, crisis actors are more likely to have a large decision making unit.	Yes	Yes
H2b - As stress levels increase in non-protracted conflict crises, there is no relationship between stress levels and the likelihood of a large decision making unit.	Yes	No
H3a - As stress levels increase in protracted conflict crises, crisis actors are less likely to respond to non-violent crisis triggers with violent crisis management responses.	No	No
H3b - As stress levels increase in non-protracted conflict crises, there is no relationship between stress levels and the likelihood of violent crises management responses to non-violent crisis triggers.	Yes	No
H4a - As stress levels increase in protracted conflict crises, the outcome is more likely to be definitive.	No	No
H4b - As stress levels increase in non-protracted conflict crises, there is no relationship between stress levels and the likelihood of a definitive outcome.	No	Yes
H5a - As stress levels increase in protracted conflict crises, there is no relationship between stress levels and the likelihood of increased tension levels between adversaries following a crisis.	No	Yes
H5b - As stress levels increase in non-protracted conflict crises, crisis actors are more likely to experience an increased tension levels between adversaries following a crisis.	Yes	Yes

hypotheses had statistically significant results and which did not. For each pair, I had predicted that one hypothesis within that pair would be significant and one would not.

The first and fifth pairs of hypotheses (H1 and H5) were the only two which were clearly supported in the manner predicted. For H1, a statistically significant relationship existed between increasing stress levels and the decreasing amount of time between crisis trigger and crisis response in protracted conflict crises. This relationship did not appear in non-protracted conflict crises. In regards to conflict setting, the converse was seen in the relationship between decision maker stress and the tension levels among adversaries following a crisis as seen in H5. In non-protracted conflict crises, the likelihood of increased post-crisis tension levels increased as stress levels increased. There was no such relationship in protracted conflict crises.

The outcome of the second pair of hypotheses (H2) showed a significant relationship between increasing stress levels and the probability of larger decision unit making sizes. So on one hand, it was gratifying to see that such a relationship does exist as hypothesized. But this relationship existed in both protracted conflict and non-protracted conflict crises, which goes against what I predicted. So conflict setting does not appear to significantly affect the capability of predicting larger decision making units with the stress variable.

The third set of hypotheses (H3) also revealed interesting results. There was indeed a relationship between stress levels and the likelihood of violent crisis responses to non-violent crisis triggers. But I was mistaken in regards to the conflict setting. The significant relationship appeared in non-protracted conflict crises and not in protracted conflict crises. This result, in particular, provides direction for future studies given that

the results contradict some of the generally accepted views regarding violence in protracted conflicts.

Finally, as seen in H4, the fourth pair of hypotheses was the only set in which there was no significant relationship between decision maker stress and the dependent variable, which in this case was the probability of a definitive outcome. I take some solace in the fact that in the protracted conflict crises (H4a and Table 8) there was what appeared to be a significant relationship between these variables in the various reduced models (Models I, III, IV, V, and VI.) And the relationship appeared significant in a full model which excluded the system polarity variables. But the full model (Model VII Table 8) with all control variables did not show a relationship at a statistically significant level, thus leading to the rejection of this rejection of H4a.

Chapter 6

Conclusion

When I began this research project, I truly had no idea what to expect. Although I had some logical and intuitive assumptions about the effect of stress on crisis decision making, characteristics, and outcomes, I found only limited amounts of research on these topics. Much of the research has been limited in scope, varying from small experimental studies to historical case studies. Other researchers have used the ICBP dataset or other sources for quantitative analyses. But none of those studies specifically examined the impact of decision maker stress using advanced statistical methods. So my dissertation research has truly been what I hope is a unique contribution to the body of knowledge on this topic.

Lessons Learned

I started this research with two central themes in mind: the role of stress in international crises and the moderating role of protracted and non-protracted conflict settings in international crises. First, I believed that decision maker stress would impact a variety of aspects of international crises and crisis management. I surmised that stress influenced the actual decision making processes and procedures. I also believed that stress, through the decision making process, impacted some of the characteristics and outcomes of international crises. In general, my results confirmed these assumptions.

The analyses showed that decision maker stress played a role in how quickly countries respond to crises. Countries were more likely to respond faster if the situation was more stressful. Of all the results, this was probably the most expected from an intuitive standpoint. It just seemed plausible and likely that decision makers would

respond more quickly in high stress situations. Now there is statistical evidence to support this assumption. I did not examine the quality of decision making or the outcome in crises with quicker crisis response times. That is an area for researchers to explore in the future.

The analyses also revealed that the amount of stress also impacted the number of people involved in the decision making process, that is the size of the decision making unit. When decision maker stress was higher, a larger decision making body was more likely. As with the crisis response time analysis, I did not examine the outcome or effectiveness of crisis response with larger decision making units. That too is an area of interest for future researchers.

Furthermore, the statistical analyses show that stress is an important indicator as to whether nations will match the level of violence of their crisis response to the level of violence of the crisis trigger. I found the results of this hypothesis pair quite interesting. Prior to my reading and research, I thought the breakdown of matching behavior would occur at high stress. I think that would probably be a common sense view of this matter. But a review of the relevant literature led me to correctly predict that the opposite would be true and that breakdowns of matching behavior would occur in lower stress crises. Given the consequences of the use of violence as a crisis management response, these results should give leaders pause when they consider their overall crisis management strategies and plans. It is in the low stress crises, the ones that might not garner the full attention or resources of a nation's highest leaders, that an overreaction is likely to occur with violence used as a response to a nonviolent crisis trigger. Anytime leaders use violence as a crisis management response or technique, the men and women of a

country's military put their lives at risk and in harm's way; they are often the ones to pay the ultimate price, not the national leaders. In addition, once violence is used, it is difficult for countries to step back from the situation in order to consider non-violent conflict resolutions. As the saying goes, "You cannot put the genie back in the bottle." Finally, whenever violence is used, innocent civilians and non-combatants might also bear the brunt of the violence and its consequences.

The first three analyses discussed pertain to the impact of stress on crisis decision making practices, techniques, and choices. The final two analyses in my research concern the effect of stress on crisis outcomes. There is a link between decision making and crisis outcomes in that it is the decisions made that lead to the outcomes, but the relationship is more indirect for these final two pair of hypotheses. My results revealed that when other factors were controlled for through the use of control variables, there was no definitive relationship between decision maker stress and the likelihood of a definitive versus an ambiguous outcome. Although decision maker stress might play some role in the type of outcome seen, other factors exist which are probably more influential in the determination of crisis outcome.

Finally, my results showed an apparently strong connection between decision maker stress and the probability of higher tension levels following a crisis. As with the first set of hypotheses, this outcome was not totally surprising because it seems somewhat intuitive. Even though this analysis concerned a post-crisis variable, I believe leaders can learn an important lesson regarding pre-crisis decision making from these results. It is important to monitor and manage the pre-crisis situation because, once a conflict

develops into a high stress crisis, it is likely that tension levels will remain high following the crisis, thus creating a new status quo of high tension levels between countries.

The second theme I explored was the importance of conflict setting in an international crisis. Much literature already exists showing that crises in protracted conflicts are different than those in non-protracted conflicts. However, I approached this research with the idea that conflict setting might play a moderating role to how stress impacts crises. Specifically, I proposed that stress would impact crises differently depending on whether the crisis took place in a protracted or non-protracted conflict. My analyses show that I was partially correct in my assumptions regarding this issue. My first, third, and fifth pairs of hypotheses (H1, H3, and H5) revealed that stress impacted international crises and crisis decision making differently based on the protracted/non-protracted conflict dimension. The conflict setting was important in matters involving crisis response times, breakdowns in trigger/response matching behavior, and the post-crisis tension levels. Whether a crisis took place in a protracted or non-protracted conflict setting had no impact on the likelihood of larger decision making units or definitive crisis outcomes.

The lesson to be learned from my second theme is the reinforcement of the existing knowledge regarding the differences between protracted and non-protracted conflict crises. Because crises and the impact of stress on crisis decision making is different based on conflict setting, leaders and crisis management practitioners need to be aware that their choices, recommendations, and decision making may also be different

based on the conflict setting. A one-size-fits-all approach to crisis management is not a viable approach.

Limitations

As with any research project, there are limitations and cautions to consider. First, although my research examined the impact of decision maker stress on international crises and crisis management, it was an inferential study. I did not conduct an in-depth analysis of world leaders and their decision making policies, practices, techniques, or strategies. I drew my conclusions based on a statistical analysis of factors and variables I believe relate, either directly or indirectly, to leaders' decision making. Research using historical case studies and specific examinations of the impact of stress on leaders' decision making may provide more insight into the themes that I explored.

A second concern relates directly to the statistical analysis itself and the concept of independence. My analyses examined the impact of the decision maker stress level of the individual crisis actors within the ICBP data set. Almost all of the crises involved more than one crisis actor, although some cases exist in which the situation met the criteria of a crisis for one party involved, but not for any other parties. For a vast majority of crises, there are two or more crisis actors involved in each crisis. It is conceivable, some would argue almost certain, that a leader's decision making and choices are influenced by the decision making and choices of the other leaders involved in the crisis. So the cases or observations are not necessarily independent of each other. From a general systems viewpoint, this is actually to be expected. Leaders do not make decisions in isolation. Rather, they make decisions based on the constant and on-going interactions with the other parties involved. But from a statistician's perspective,

however, this lack of independence might raise concerns about the accuracy and validity of my statistical analyses using logistic regression. I agree that it is an area of concern. Unfortunately, it is also a difficult concern to address in a study such as this.

One possible solution was to limit the data set to only a single crisis actor per crisis. The consequence of this approach would be the drastic reduction in the size of the data set, thus impacting the statistical power of my analysis. So I chose to proceed with the full data set analysis, while acknowledging that from a statistical viewpoint my results might be questioned.

I did, however, complete a secondary analysis using a reduced data set and included those results in Appendix 2 (Tables 13-22). For that analysis, only one crisis actor per international crises was included.

Areas of Future Research

An exciting aspect of this research project was the revelation of other possible research topics in the field of international crises. One area of worthwhile research would be the impact of decision maker stress on decision quality in international crises. Is the quality of choices made affected by the decision maker's stress level? Although research exists regarding decision quality and decision maker performance, little has been done to study these topics as they pertain to international crises, in general, and the impact of stress during international crises, in particular.

Further research is needed to examine the impact of stress on the type of outcome seen in an international crisis. Although my results were not statistically significant when examining the probability of a definitive outcome at higher stress levels, I believe that there is enough evidence to necessitate further investigation into this issue.

Given the consequences of using violence as a crisis management tool, another area of interest for researchers should be the use of violence during crises. Specifically, future studies could examine the use of violence in non-protracted conflict crises, particularly when the crisis trigger is non-violent.

Finally, each of the categories of control variables used would be an interesting and possibly fruitful area of research. Issues such as historical time period, political regime type, violence, geography, and third party involvement all impact various crisis aspects and attributes. There is still much to be learned about crises and crisis management. Research focused on these topics might reveal insights and new information that could be used by leaders and decision makers.

Applications

As with any social science research, the usefulness and potential benefits of my research can be viewed across a wide spectrum. On one end of the spectrum, this research is, if nothing else, theoretically interesting. It provides insight into the impact of stress and cognitive functioning on crisis decision making. Because there is little quantitative research examining decision maker stress, my findings offer new avenues of study for researchers.

My research also has value for historians and political scientists wishing to examine past international crises. The advantage of such retrospective studies is that we now have a different vantage point or angle from which to examine past events. So my research might pave the way for a better understanding of historical crisis management, thus giving us insight and teaching us lessons to be applied to future crisis situations.

At the other end of the usefulness spectrum, my research has real and relevant applications for current leaders and decision makers. Armed with knowledge taken from this research, leaders can apply these insights into their crisis management plans. For example, if leaders know in advance that a quicker crisis response is more likely in higher stress protracted conflict situations, then they can assure that their decision making procedures are clearly planned and considered before the crisis begins. The need for a quick response might be inherent to the situation. So if work and planning has been done beforehand, then hopefully leaders can make better decisions. As another example, if decision makers know that in lower stress non-protracted conflict crises there is a higher probability of using violence to respond to non-violent triggers, then they can be more vigilant and cautious in their actions, ensuring that any possible use of violence has been carefully deliberated. The far-reaching consequences of using violence as a crisis management response necessitates that responsible leaders fully consider their actions. A final example of a relevant application based on this research is seen in the post-crisis tension levels between crisis actors. My results clearly show that the probability of higher tension levels increases as stress increases in non-protracted conflict crises. Leaders and decision makers in this type of situation must proceed carefully, lest they find themselves in a situation in which the new relationships between other parties are defined by this new, higher level of stress. The crisis they find themselves in could very well be the start of a new protracted conflict if not handled appropriately.

Conclusion

My goal for this dissertation research project was to contribute to the body of knowledge regarding crisis management during international crises. I believe that I have

achieved that goal. I have conducted a unique research project with results not found elsewhere in the international crisis literature. The lessons learned from my research have the potential to influence and shape the crisis decision making doctrine and theories of leaders, practitioners, and scholars. It is not realistic to believe that international crises will cease to occur, but if our societies can learn better ways to manage and solve these crises, then there is hope for a more peaceful future. And that would be a worthwhile legacy to leave future generations.

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Appendix 1

This appendix contains excerpts from the codebook for the ICBP data used in this research. The codebook itself is available as a PDF file on the ICBP website listed below. Because of the length of the codebook, only information pertaining to the variables used in this research is contained here. These excerpts, including the variable names and numbers, were copied directly from the codebooks.

Dataset: ICB2
Codebook for ICB2 – International Crisis Behavior Project
Actor-Level Dataset – January 2006
ICPSR Study #9286 – Version 6.0
Principal Investigators: Jonathan Wilkenfeld and Michael Brecher
This dataset (ICB2) comprises the actor-level data of the International Crisis Behavior (ICB)
Project. The data span the period 1918-2003, with data on 975 crisis actors. For an extensive
discussion of the structure of the actor-level data, see Michael Brecher and Jonathan Wilkenfeld, A Study of Crisis, Ann Arbor, Michigan: University of Michigan Press, 2000. See also ICBOnline at http://www.cidcm.umd.edu/icb.

Variable: 1
Name: TRIGGR
TRIGGER TO FOREIGN POLICY CRISIS
The trigger or precipitating cause of a foreign policy crisis refers to the specific act, event or
situational change which leads decision-makers to perceive a threat to basic values, time pressure for response and heightened probability of involvement in military hostilities. A trigger may be
initiated by: an adversary state; a non-state actor; or a group of states (military alliance). It may be an environmental change; or it may be internally generated.
Values and Illustrations
(1) **Verbal act** – protest, threat, accusation, demand, etc. (On 15 February 1976 President Idi Amin of Uganda announced that large parts of Kenya and the Sudan historically belonged to Uganda and that Uganda might claim these territories, thereby triggering a crisis for Kenya).
(2) **Political act** – subversion, alliance formation by adversaries, diplomatic sanctions, severance of diplomatic relations, violation of treaty (The Egyptian and Syrian proclamation of their merger into the United Arab Republic on 1 February 1958 triggered crises for Iraq and Jordan).
(3) **Economic act** – embargo, dumping, nationalization of property, withholding of economic aid

(Egypt's nationalization of the Suez Canal on 26 July 1956 triggered crises for Britain and France).
(4) **External change** – intelligence report, change in specific weapon, weapon system, offensive
capability, change in global system or regional subsystem, challenge to legitimacy by international organization (Intelligence reports of the construction of a USSR submarine base in Cienfuegos, Cuba triggered a crisis for the U.S. on 16 September 1970)
(5) **Other non-violent act** – (On 30 June 1961 Kuwait requested assistance from Britain against
an expected attack by Iraq, triggering a crisis for Britain).
(6) **Internal verbal or physical challenge to regime or elite** – incitement by media, proclamation of new regime, fall of government, coup d'etat, sabotage act, terrorism, assassination, riot, demonstration, strike, arrest, martial law, execution, mutiny, revolt (On 25 July 1934 Austrian Nazis killed Chancellor Dollfuss, triggering a crisis for Austria).
(7) **Non-violent military act** – show of force, war game or maneuvers, mobilization, movement of forces, change of force posture to offensive (The entry of three German battalions into the
demilitarized zone of the Rhineland on 7 March 1936 triggered crises for Belgium, Czechoslovakia, France, Poland, Romania, the U.K. and Yugoslavia).
(8) **Indirect violent act** – revolt in another country, violent act directed at ally, friendly state, or
client state (The PRC bombardment of Quemoy and Matsu, which began on 23 August 1958,
triggered a crisis for the U.S.).
(9) **Violent act** – border clash, border crossing by limited force, invasion of air space, sinking of
ship, sea-air incident, bombing of large target, large-scale military attack, war (The South Vietnam- U.S. invasion of Laos on 8 February 1971 triggered a crisis for Laos).

Variable: 7
Name: SIZEDU
SIZE OF DECISIONAL UNIT
The decisional unit is not necessarily the formal body designated by a crisis actor's regime
to make choices, but rather that body which actually formulates the major response to the crisis
trigger, as reported in MAJRES (see Variable 10 below). Thus, the question is how many decision makers participated in formulating the major response. The term "decision maker" refers to political leaders, not bureaucrats or military officers, or any other advisors.
Values and Illustrations
(1) **Small: 1-4 persons** (In the February 1978 Lebanon Civil War II Crisis, Syria employed a
small decision-making body).

(2) **Medium: 5-10 persons** (In the Invasion of Albania Crisis of 1939, Greece employed a
medium-size decision-making body).
(3) **Large: over 10 persons** (Sweden employed a large decision-making unit in the 1952 Catalina Affair).

Variable: 10
Name: MAJRES
CRISIS MANAGEMENT I: MAJOR RESPONSE TO CRISIS TRIGGER
Once the decision makers of a state perceive the act/event/change which triggers its crisis,
they will decide on an appropriate response. The major response is that specific action which
captures the major thrust of its behavior (the U.S. quarantine of Cuba in the 1962 Missile Crisis).
Most of the categories of the major response variable match those of the trigger variable (above).
Values and Illustrations
(7) **No response-inaction** – (On 14 March 1939 Hitler informed President Hacha of Czechoslovakia that German troops had occupied Moravska Ostrava and were poised all along the perimeter of Bohemia and Moravia, and Czechoslovakia surrendered, in the Czechoslovakia
Annexation Crisis).
(2) **Verbal act** – protest, threat, accusation, demand, etc. (Following the announcement of the
Marshall Plan in June 1947 and Czechoslovakia's initial favorable response, the USSR delivered an ultimatum to the Czechs on 9 July calling for immediate withdrawal from the Marshall Plan talks).
(3) **Political act** – subversion, alliance formation by adversaries, diplomatic sanctions, severance of diplomatic relations, violation of treaty threat to commit economic or military act. (In the Vietnam Invasion of Cambodia Crisis of 1977-78, Cambodia's major response was the breaking of diplomatic relations with Vietnam and the withdrawal of its embassy personnel from Moscow).
(4) **Economic act** – embargo, dumping, nationalization of property, withholding of economic aid
(In the Dahomey/Niger Crisis of December 1963-January 1964, Dahomey's major response was
the closure of rail and road links to landlocked Niger).
(5) **Other non-violent act** (In the Shatt-al-Arab II Crisis of 1969, Iran reacted to Iraq's demand
that Iranian ships passing through the estuary lower their flags, by declaring the 1937 treaty null
and void).
(6) **Non-violent military act** – declaration of war, show of force, war games or maneuvers,

mobilization, movement of forces, with demand of forces, change of force posture to offensive,
military aid (The Japanese response to Soviet occupation of disputed islands in the Amur River
Crisis of 1937 was to concentrate troops in the area).
(7) **Multiple including non-violent military act** (In the Trieste II Crisis of 1953, Yugoslavia's
response involved the lodging of a formal protest with the U.S. and Britain, the mobilization of
military reserves and the movement of warships into the area).
(8) **Violent military act** – border clash, border crossing by limited force, invasion of air space,
sinking of ship, sea-air incident, bombing of large target, large-scale military attack, war (On 19 July 1961 French paratroops and other forces launched a military assault against Tunisian position in the Bizerta Crisis).
(9) **Multiple including violent military act** (On 22 November 1970 Guinea responded to an
invasion by mercenaries from Portuguese Guinea with force and with an appeal for troops from the United Nations).

Variable: 12
Name: TRGRESRA
ELAPSED TIME BETWEEN PERCEPTION OF TRIGGER AND MAJOR RESPONSE
This variable identifies the number of days which elapsed between the perception of the trigger and the major response by the crisis actor. The day of the trigger was coded as day 1. If the precise date on either of these was missing, the closest approximation was coded.

Variable: 16
Name: USINV
U.S. INVOLVEMENT
International crises involve various actors, often including one or more of the great powers (1918-1945) or one or both of the superpowers (post-1945). U.S. involvement means any important verbal or physical activity during the crisis for or against the crisis actor in question. If the U.S. was the actor being coded, (9) was assigned. If more than one form of U.S. activity occurred, the most intense was coded.
Values and Illustrations
(1) **U.S. not involved in the crisis being coded**
(2) **U.S. non-intervention or neutrality** (The United States invoked the Neutrality Act in the fall of 1940 during the Balkan Invasion Crisis).
(3) **U.S. political involvement** – including statements of approval or disapproval by authorized and senior government officials (The United States was politically involved in the 1956-57 Suez Nationalization-War Crisis).
(4) **U.S. economic involvement** – e.g., financial aid, or the withholding of aid from an actor (In the 1960 crisis between Venezuela and the Dominican Republic, the U.S. withheld the Dominican Republic's sugar quota).

(5) **U.S. propaganda involvement** – increase in Voice of America broadcasts beamed at a particular country (The U.S. engaged in propaganda activity during the Poland and Hungary crises of 1956).
(6) **U.S. covert involvement** – (U.S. involvement in the 1979-80 Afghanistan Invasion Crisis was covert).
(7) **U.S. semi-military involvement** – military aid or advisors, without participation in actual fighting (The United States was involved semi-militarily in the Taiwan Strait I Crisis of 1954-55).
(8) **U.S. direct military intervention** – dispatch of troops to Vietnam, aerial bombing of targets
or naval assistance to a party in a war (The U.S. was involved militarily in the Gulf of Syrte I Crisis of 1981).
(9) **U.S. crisis actor.**

Variable: 18
Name: SUINV
Location: Record 2, Columns 45-46
USSR/RUSSIAN INVOLVEMENT
International crises involve various actors, often including one or more of the great powers (1918-45) or one or both of the superpowers (post-1945). USSR/Russian involvement means any important verbal or physical activity during a crisis for or against the crisis actor in question. If the USSR/Russia was the actor being coded, (9) was assigned. If more than one form of USSR/Russian activity occurred, the most intense was coded.
See USINV for discussion of values.
Values and Illustrations
(1) **USSR/Russia not involved in the crisis being coded**
(2) **USSR/Russia non-intervention or neutrality**
(3) **USSR/Russia political involvement** (The Soviet Union was involved politically in the 1931-
32 Mukden Incident Crisis between Japan and China).
(4) **USSR/Russian economic involvement** (The USSR supplied economic aid to Afghanistan
during the 1961-62 Pushtunistan III crisis with Pakistan).
(5) **USSR/Russian propaganda involvement** (The USSR broadcast anti-Iranian propaganda during the Shatt-al-Arab I Crisis of 1959-60).
(6) **USSR/Russian covert involvement** (The Soviet Union supplied covert aid to Algeria and the Polisario guerrillas during the Moroccan March Crisis of 1975-76).
(7) **USSR/Russian semi-military involvement** (The Soviet Union provided military aid to ZIPRA during the Rhodesia Settlement Crisis of 1979-80).
(8) **USSR/Russian direct military intervention** (The USSR was involved militarily in the
Afghanistan Invasion Crisis of 1979-80).
(9) **USSR/Russia crisis actor**

Variable: 31

Name: GLOBACT
CONTENT OF GLOBAL ORGANIZATION INVOLVEMENT
This variable identifies the content of global organization activity which was the basis of the coding of GLOBORG (above).
Values and Illustrations
(1) **Global organization not in existence**
(2) **No global organization involvement**
(3) **Discussion without resolution** (During the Karameh Crisis of 1968, the UN Security Council discussed the matter but failed to pass a resolution).
(4) **Fact-finding** (During the Burundi/Rwanda Crisis of 1963-64, the UN sent a fact-finding
mission to the area).
(5) **Good offices** (In the Mayaguez Crisis between the U.S. and Cambodia in 1975, the UN
Secretary-General offered his good offices to settle the dispute).
(6) **Condemnation** (The UN Security Council condemned Israel for its commando raid on the
Beirut Airport in December 1968).
(7) **Call for action by adversaries** (In the Nagornyy-Karabakh Crisis of 1991-92, the UN
Security Council passed a resolution calling for a cease fire between Armenia and Azerbaijan).
(8) **Mediation** ((Secretary-General Waldheim's mediation efforts in the Moroccan March Crisis of 1975 contributed substantially to crisis abatement).
(9) **Arbitration** (In 1937, the League Council placed Alexandretta under Syrian control and
drafted a Statute of Fundamental Law for the Sanjak).
(10) **Adjudication**
(11) **Sanctions** (The League of Nations adopted a resolution to maintain an arms embargo against Paraguay and to lift it from Bolivia during the Chaco II Crisis of 1932).
(12) **Observer group** (During the Lebanon/Iraq Crisis of 1958 the Security Council adopted a
resolution dispatching an observer group to Lebanon to ensure that there was no infiltration across its border).
(13) **Emergency military forces** (In July 1960 the Security Council passed a resolution establishing a UN emergency military force for the Congo in the Congo I: Katanga Crisis).
(14) **General/other**

Variable: 34
Name: REGACT
CONTENT OF REGIONAL/SECURITY ORGANIZATION INVOLVEMENT
This variable identifies the content of regional/security organization activity during the course of a crisis. Only post-World War II cases were included.
Values and Illustrations
(0) **RSO not in existence**

(1) **No RSO involvement**
(2) **Discussion without resolution** (During the West Irian I Crisis of 1957, the NATO Council
met but took no action).
(3) **Fact-finding** (In the Dominican Republic/Haiti Crisis of 1963 an OAS fact-finding mission
shuttled between the two countries).
(4) **Good offices** (The President of the Union Africaine et Malgache offered his good offices in the Dahomey/Niger Crisis of 1963-64).
(5) **Condemnation** (The OAS passed a resolution condemning the Dominican Republic in its
1960 crisis with Venezuela).
(6) **Call for action** (During the Indonesian Independence III Crisis of 1948-49 the Arab League
passed a resolution calling for Dutch acceptance of a cease-fire).
(7) **Mediation** (In the Black September Crisis of 1970 the Arab League played a mediating role in producing a cease-fire between Jordan and Syria).
(8) **Arbitration** (The OAS arbitrated the dispute between Honduras and El Salvador in the
Football War of 1969).
(9) **Adjudication**
(10) **Sanctions** (In the Soviet Bloc/Yugoslavia Crisis of 1949, the COMECON imposed sanctions on Yugoslavia).
(11) **Observer group** (The League of Arab States adopted a resolution to supervise the implementation of a cease-fire between North and South Yemen in 1979).
(12) **Emergency military force** (In the Dominican Republic Crisis of 1965 an OAS Resolution
called for the dispatch of an Inter-American Peace Force to the Dominican Republic).
(13) **Multiple activity** (In the Berlin Wall Crisis of 1961 Khrushchev's demand for a settlement
elicited NATO consultations and WTO endorsement).
(14) **General/other**

Variable: 36
Name: OUTCOM
CONTENT OF CRISIS OUTCOME
This variable deals with the content of crisis termination. Did a crisis actor yield? Did it triumph? Was a compromise reached? Was there a blurred outcome regarding goal achievement?
The outcome is indicated from the perspective of a specific actor. The values which fall under the categories listed below should be thought of in terms of achievement/non-achievement of basic goals(s) by a crisis actor in the context of a specific crisis.
Values and Illustrations
(1) **Victory** – achievement of basic goal(s); the crisis actor defeated a threatening adversary by

counter-threats (The U.S., Britain and France perceived victory in the Berlin Blockade Crisis of
1948-49).
(2) **Compromise** – partial achievement of basic goal(s) (The outcome of the War of Attrition Crisis of 1969-70 was perceived as a compromise by Egypt, Israel and the USSR).
(3) **Stalemate** – no effect on basic goal(s); no clear outcome to the crisis; no change in the situation (Saudi Arabia, Jordan, Egypt and Yemen all viewed the outcome of the first Yemen War Crisis of 1962-63 as a stalemate).
(4) **Defeat** – non-achievement of basic goal(s); the crisis actor yielded or surrendered when an
adversary threatened basic values (Pakistan viewed the outcome of the Bangladesh Crisis of 1971 as a defeat).
(5) **Other**

Variable: 39
Name: OUTESR
ESCALATION OR REDUCTION OF TENSION
This variable assesses the effect of the outcome of a crisis on the tension level among the adversaries.
Values and Illustrations
(7) **Tension escalation** – crisis recurred among the principal adversaries during the subsequent
five-year period (The Gaza Raid-Czech Arms Crisis of 1955-56 between Israel and Egypt was
followed in October 1956 by the Suez-Sinai Crisis).
(2) **Tension reduction** – crisis did not recur among the principal adversaries during the subsequent five-year period (The Panama Flag Crisis of 1964 involving the U.S. and Panama was not followed by a subsequent crisis between these adversaries within five years).
(3) **Recent case**

Variable: 44
Name: GEOG
GEOGRAPHIC LOCATION OF CRISIS
What was the geographic location of the crisis for the crisis actor?
Values
(9) **Central Asia**
(11) **East Asia**
(12) **South-East Asia**
(13) **South Asia**
(15) **Middle East**
(20) **West Africa**
(21) **North Africa**
(22) **East Africa**

(23) **Southern Africa**
(24) **Central Africa**
(30) **Euro-Asia**
(31) **East Europe**
(32) **Central Europe**
(33) **West Europe**
(34) **North Europe**
(35) **South Europe**
(41) **North America**
(42) **Central America**
(43) **South America**
(51) **Australasia**

Variable: 45
Name: CRACTLOC
DISTANCE OF CRISIS ACTOR FROM LOCATION OF CRISIS
What was the distance of the crisis actor from the international crisis?
Values
(1) **Home territory** (In the Palestine Partition-Israel Independence Crisis of 1947-49, the crisis for Israel took place on its home territory).
(2) **Sub-region** (For Yugoslavia and Czechoslovakia, the Austrian Putsch Crisis of 1934 took place in their sub-region).
(3) **Same continent** (The Berlin Wall Crisis of 1961, for the USSR, took place on the same
continent).
(4) **Elsewhere** (The Korean War I Crisis of 1950, for the United States, took place "elsewhere")

Variable: 48
Name: PERIOD
SYSTEM POLARITY
For each crisis actor, this variable identifies the overall power structure of the international
system, that is, its polarity.
Values
(1) **Multipolarity** – referring to several power centers, characterizing the global system for much of the 19th and 20th centuries. For purposes of this coding, the relevant period is 1918-1939. During this period, several relatively equal great powers shaped the pattern of relations in the system – France, Germany, Great Britain, Italy, Japan, the Soviet Union and the United States.
(2) **World War II** – (1939-1945) was essentially a continuation of multipolarity in terms of system structure. It is designated a separate system-period because almost all crisis actors during those years were participants in a prolonged war, and almost all crises were of the intra-war type (see IWC, Variable #51 below).
(3) **Bipolarity** – A structure with two overwhelming centers of military power, an enduring trait of the global system since 1945, though with several phases: embryonic

bipolarity from 1945 to 1948, before domination by the U.S. and the USSR fully matured; tight bipolarity from 1948 to 1956, with most states linked to the two hostile centers of power and decision in world politics and loose bipolarity from 1956 to 1962, when rigid blocs led by the two superpowers experienced intense internal pressures and defections.
(4) **Polycentrism** – The system-period from 1963 to 1989, which witnessed the diffusion of decision among actors in world politics, with the persistence of two preeminent world powers. As such, it combines features of both bipolarity and multipolarity.
(5) **Unipolarity** – With the collapse of the Soviet Union and the establishment of republics among the Russion-led Commonwealth of Independent Status (CIS), has evolved from polycentrism to something akin to unipolarity, with the U.S. as the dominant power. 1990 - .

Variable: 50
Name: protracted conflict
CONFLICT SETTING
This variable identifies the conflict setting of the crisis for the crisis actor.
Values and Illustrations
(1) **Non-protracted conflict** – a setting in which an external crisis for an individual state is
unburdened by long-term hostility with one or more adversary states (the Cod War Crisis of 1973 for the U.K. and Iceland).
(2) **Protracted conflict** – an environment of ongoing disputes among adversaries, with fluctuating interaction ranging from violence to near-tranquility, multiple issues and spillover effects on all aspects of their relations, and the absence of mutually-recognized or anticipated termination (the Arab-Israeli conflict, 1947-).
(3) **Long-war protracted conflict** – a setting of protracted conflict in which war is pervasive and
continuous (Vietnam 1964-75).

Variable: 52
Name: VIOL
VIOLENCE ASSOCIATED WITH CRISIS ACTOR
This variable identifies the extent of violence experienced by a crisis actor, regardless of its use or non-use as a crisis management technique.
Values and Illustrations
(1) No violence (In the Ecuador/Peru Border IV Crisis of 1991, neither Ecuador nor Peru experienced violence during any phase of the crisis).
(2) Minor clashes (In the Persian Border Crisis of 1920-21, both Russia and Persia experienced
minor clashes in the Caspian Seaport).
(3) Serious clashes (In the Qalqilya Crisis of 1956, Israeli retaliatory raids into Jordan resulted in
serious clashes between the two countries).
(4) Full-scale war (In the Gulf War Crisis of 1990-91, the following states experienced full-scale

war: Kuwait, USA, Egypt, France, Iraq, Saudi Arabia, Syria, and the U.K.).

Variable: 59
Name: REGIME
POLITICAL REGIME OF CRISIS ACTOR
This variable distinguishes between authoritarian and democratic regimes, as well as between civil and military regimes, at the time of the crisis. Criteria for identifying democratic regimes are: competitive elections; pluralist representation in the legislature; several autonomous centers of authority in the political system; competitive parties; and a free press. If three or more of these criteria were missing or severely limited, and there was no military component whatsoever, the state was coded as a civil authoritarian regime. A military regime was said to exist when government control was in the hands of the armed forces or when it acted entirely or predominantly at their command. Coding judgments were made in terms of actual practices, rather than constitutional or other formal legal provisions, since the formal constitutional structure gives no guidance as to how a regime works. The following definitions were used as a guide:
Direct military rule: The armed forces exercise direct political control (Pakistan 1958-71, 1977-88, Syria 1949-51, Turkey 1980-).
Indirect military rule: The armed forces determine policy but act through a subordinate civilian
government (Argentina 1959-62, Cuba 1933-40).
Dual Authority: The regime rests on the armed forces and a civilian party, organization or group,
with the ruler as leader of both pillars of authority (Peron's Argentina 1945-55, Franco's Spain
1939-76).
Values
(1) **Democratic regime**
(2) **Civil authoritarian regime**
(3) **Military-direct rule**
(4) **Military-indirect rule**
(5) **Military dual authority**

Variable: 64
Name: POWSTA
POWER STATUS OF CRISIS ACTOR
The status of actors in subsystem or mainly subsystem crises was determined by the power
status within the subsystem, while the status of those whose crises took place in the mainly
dominant or dominant system was determined by their power status in the dominant system.
Values and Illustrations
(1) **Small power** (Sudan in the Sudan/Egypt Border Crisis of 1958).
(2) **Middle power** (Poland in the 1956 Poland Liberalization Crisis).

(3) **Great power** (France and Great Britain in the 1956-57 Suez Nationalization-War Crisis).
(4) **Superpower** (The U.S. and the USSR in the Berlin Wall Crisis of 1961).

Variable: 67
Name: GRAVTY
GRAVITY
This variable identifies the object of gravest threat at any time during the crisis, as perceived
by the principal decision makers of the crisis actor. When two or more values were threatened, the most severe was coded.
Values and Illustrations

(7) **Economic threat** (A crisis for Egypt was triggered in January 1992 when Sudan granted a
Canadian oil company a concession to explore for oil in Halaib, in the Egypt/Sudan Border II
Crisis).
(1) **Limited military threat** – (Israel=s raid on the airport in Entebbe on 3 July 1976 constituted a limited military threat for Uganda, in the Entebbe Raid Crisis).
(2) **Political threat** – threat of overthrow of regime, change of institutions, replacement of elite,
intervention in domestic politics, subversion (Nicaragua, Panama, the Dominican Republic and
Haiti, perceived threats to their political systems, generated by Cuba-assisted invasions by exiles of these states, in the 1959 Cuba/Central America I Crisis).
(3) **Territorial threat** – threat of integration, annexation of part of a state's territory, separatism
(Japanese military operations in China as a threat to China in the Mukden Incident Crisis of 1931-1932).
(4) **Threat to influence in the international system or regional subsystem** – threat of declining power in the global system and/or regional subsystem, diplomatic isolation, cessation of patron aid (Egypt's nationalization of the Suez Canal in 1956 as a threat to the global and regional influence of the U.S. and USSR in the Suez Nationalization/War Crisis).
(5) **Threat of grave damage** – threat of large casualties in war, mass bombings (The PRC build-up of forces in the coastal areas around Quemoy and Matsu was perceived by Taiwan as a threat of grave damage in the 1958 Taiwan Straits II Crisis).
(6) **Threat to existence** – threat to survival of population, of genocide, threat to existence of entity, of total annexation, colonial rule, occupation (Italy's invasion of Ethiopia and the war which ensued, 1934-36).
(7) **Other**

Appendix 2

This appendix contains statistical result tables similar to the ones included earlier in the dissertation. The difference between these tables and the ones presented earlier is that the analyses for these tables were conducted on a reduced data set. I only included one crisis actor per international crisis. The reason for this was to address the issue of independence in regression analysis. By only including one crisis actor per crisis, my goal was to determine if I would achieve similar results as when I used the entire data set, while also eliminating any concern for independence of cases within the data.

Table 13: Standardized and (Unstandardized) Coefficients for Linear Regression of Log Transformation of Crisis Response Time in Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Unstandardized coefficients marked by parenthesis).

	I	II	III	IV	V	VI	VII
Stress	-.038 (-.054)	-.028 (-.040)	-.040 (-.057)	-.086 (-.123)	-.049 (-.069)	-.058 (-.082)	-.041 (-.059)
System Polarity							
Multipolarity		.060 (.162)					-.009 (-.025)
World War II		.318 *** (.876)					.179* (.492)
Bipolarity		.146 (.296)					.036 (.073)
Polycentrism		-.007 (-.012)					.054 (.094)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			.028 (.049)				.098 (.170)
Military Regime			-.038 (-.084)				-.096 (.210)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				.063 (.116)			.092 (.169)
Minor Clashes				-.236*** (-.525)			-.088 (-.197)
Serious Clashes				-.178** (-.365)			-.016 (-.033)
Full War				excluded			excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					.005 (.009)		.070 (.010)
Africa					-.135 (-.295)		-.119 (-.260)
Europe					.267*** (.559)		.211** (.443)
Americas					-.003 (-.009)		.054 (.185)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					-.198*** (-.461)		-.181 ** (.183)
Same Continent					.133* (.458)		.053 (.257)
Elsewhere					.095 (.266)		..066 (.184)
Third Party Involvement							
USA Involvement						.061 (.120)	-.016 (-.031)
USSR/Russia Involvement						.262*** (.457)	.192** (.335)
Global Org. Involvement						-.216*** (-.374)	-.069 (-.119)
Reg./Sec. Org. Involv.						-.096 (-.172)	-.039 (-.071)
Constant	2.517	2.325	2.512	2.715	2.480	2.454	2.179
Adjusted R-Square	-.003	.085	-.007	.072	.161	.094	.216
N	253	253	253	253	253	253	253

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Table 14: Standardized and (Unstandardized) Coefficients for Linear Regression of Log Transformation of Crisis Response Time in Non-Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Unstandardized coefficients marked by parenthesis).

	I	II	III	IV	V	VI	VII
Stress	-.010 (-.007)	-.021 (-.014)	-.006 (-.004)	-.018 (-.012)	-.016 (-.011)	.008 (.005)	.020 (.014)
System Polarity							
Multipolarity		.109 (.145)					.129 (.172)
World War II		.000 (.000)					-.002 (-.004)
Bipolarity		.019 (.027)					-.026 (-.036)
Polycentrism		-.006 (-.007)					-.008 (-.009)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			-.083 (-.093)				-.093 (-.104)
Military Regime			-.145 * (-.196)				-.179* (-.242)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				.146 (.168)			.239* (.274)
Minor Clashes				.061 (.072)			.125 (.148)
Serious Clashes				.096 (.133)			.176 (.241)
Full War				excluded			excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					.049 (.080)		-.009 (-.015)
Africa					-.051 (-.060)		-.057 (-.068)
Europe					.008 (.008)		-.174 (-.226)
Americas					.051 (.078)		.004 (.007)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					-.031 (-.048)		-.052 (-.081)
Same Continent					-.046 (-.106)		-.059 (-.136)
Elsewhere					-.001 (-.002)		-.088 (-.162)
Third Party Involvement							
USA Involvement						.014 (.016)	.012 (.014)
USSR/Russia Involvement						-.066 (-.074)	-.040 (-.045)
Global Org. Involvement						.045 (.051)	.040 (.045)
Reg./Sec. Org. Involv.						-.131* (-.149)	-.098 (-.112)
Constant	.695	.676	.770	.594	.712	.723	.665
Adjusted R-Square	-.005	-.012	.003	-.009	-.027	-.003	-.028
N	211	211	211	211	211	211	211

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Table 15: Coefficients and (Odds Ratios) for Logistic Regression of Large Decision Making Unit Size in Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	.029 (1.030)	.134 (1.114)	.029 (1.029)	-.046 (.955)	-.013 (.987)	.124 (1.132)	-.049 (.952)
System Polarity							
Multipolarity		.6396 (1.487)					.575 (1.778)
World War II		-.121 (.886)					.315 (1.371)
Bipolarity		.004 (1.004)					-.355 (.701)
Polycentrism		.686 (1.986)					1.316* (3.729)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			-.551 (.576)				-.603 (.547)
Military Regime			-.314 (.731)				-.371 (.690)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				-.637 (.529)			-.890 (.411)
Minor Clashes				-1.242** (.289)			-2.017*** (.112)
Serious Clashes				-.541 (.582)			-.646 (.524)
Full War				excluded			excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					-.199 (.820)		.036 (1.036)
Africa					-.468 (.626)		-1.000 (.368)
Europe					-.522 (.593)		-.200 (.819)
Americas					-.012 (.988)		1.386 (3.998)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					-.484 (.616)		-1.030 (.357)
Same Continent					-.215 (.807)		-.073 (.930)
Elsewhere					1.154* (3.172)		.958 (2.608)
Third Party Involvement							
USA Involvement						.879** (2.409)	.919* (2.508)
USSR/Russia Involvement						-.438 (.645)	-.276 (.759)
Global Org. Involvement						.928** (2.529)	1.080** (2.946)
Reg./Sec. Org. Involv.						-.024 (.976)	-.128 (.880)
Constant	.279	-.321	.620	1.016	.631	-.526	.582
Nagelkerke R-Square	.000	.036	.019	.050	.064	.112	.286
N	194	194	194	194	194	194	194

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Table 16: Coefficients and (Odds Ratios) for Logistic Regression of Large Decision Making Unit Size in Non-Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	.462* (1.587)	.567* (1.763)	.531* (1.701)	.487* (1.627)	.522* (1.685)	.462 (1.587)	.835** (2.305)
System Polarity							
Multipolarity		-.114 (1.120)					.110 (1.116)
World War II		-2.076 (.125)					-2.626 (.072)
Bipolarity		-.830 (.436)					-.990 (.372)
Polycentrism		-.063 (.939)					.655 (1.925)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			-1.283*** (.277)				-1.303* (.272)
Military Regime			-1.841*** (.159)				-2.330*** (.097)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				-.044 (.957)			.254 (1.289)
Minor Clashes				.316 (1.372)			.936 (2.551)
Serious Clashes				.569 (1.767)			1.434 (4.197)
Full War				excluded			excluded

Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					.504 (1.655)		-.349 (.706)
Africa					-.149 (.861)		-.996 (.369)
Europe					.244 (1.276)		-.243 (.785)
Americas					-.190 (.827)		-1.287 (.276)
Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.030 (1.030)		.249 (1.283)
Same Continent					-.307 (.736)		-.555 (.574)
Elsewhere					1.508* (4.519)		.918 (2.504)
Third Party Involvement							
USA Involvement						-.151 (.860)	.008 (1.008)
USSR/Russia Involvement						-.015 (.985)	-.204 (.816)
Global Org. Involvement						.632 (1.882)	.464 (1.590)
Reg./Sec. Org. Involv.						-.098 (.907)	-.131 (.877)
Constant	-1.415	-1.386	-.656	-1.683	-1.720	-1.578	.764
Nagelkerke R-Square	.038	.105	.179	.056	.117	.066	.359
N	157	157	157	157	157	157	157

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Table 17: Coefficients and (Odds Ratios) for Logistic Regression of Violent Crisis Response to Non-violent Crisis Trigger in Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	.604* (1.829)	.562* (1.775)	-.296 (.743)		.761** (2.140)	.636* (1.888)	.799** (2.224)
System Polarity							
Multipolarity		.502 (1.652)					.636 (1.889)
World War II		.384 (1.469)					.234 (1.263)
Bipolarity		.095 (1.100)					.225 (1.252)
Polycentrism		.185 (1.203)					-.063 (.939)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			.484 (1.623)				.123 (1.131)
Military Regime			.558 (1.747)				.062 (1.064)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence							excluded
Minor Clashes							excluded
Serious Clashes							excluded
Full War							excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					-.052 (.950)		-.063 (.939)
Africa					.469 (1.598)		.625 (1.869)
Europe					-.239 (.788)		-.345 (.708)
Americas					.735 (2.085)		.816 (.2.261)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.478 (1.613)		.467 (1.596)
Same Continent					.696 (2.006)		.661 (1.936)
Elsewhere					-.837 (.433)		-.770 (.463)
Third Party Involvement							
USA Involvement						-.314 (.731)	-.194 (.824)
USSR/Russia Involvement						.340 (1.405)	.173 (1.189)
Global Org. Involvement						.208 (1.231)	.234 (1.264)
Reg./Sec. Org. Involv.						-.232 (.793)	-.250 (.779)
Constant	-.963	-1.083	-1.399		-1.425	-1.118	-1.765
Nagelkerke R-Square	.068	.073	.081		.121	.085	.143
N	126	126	126		126	126	126

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Table 18: Coefficients and (Odds Ratios) for Logistic Regression of Violent Crisis Response to Non-violent Crisis Trigger in Non-Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	.395 (1.485)	.543 (1.722)	.395 (1.484)		.360 (1.433)	.075 (1.078)	.268 (1.307)
System Polarity							
Multipolarity		-.993 (.371)					1.066 (2.904)
World War II		-1.660 (.190)					-.951 (.386)
Bipolarity		-21.135 (.000)					-21.359 (.000)
Polycentrism		-2.778** (.062)					-3.249* (.039)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			-.205 (.815)				-.572 (.564)
Military Regime			.531 (1.700)				-.032 (.968)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence							excluded
Minor Clashes							excluded
Serious Clashes							excluded
Full War							excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					.912 (2.488)		-.156 (.856)
Africa					-.807 (.446)		.932 (2.540)
Europe					-.531 (.588)		-1.354 (.258)
Americas					.212 (1.236)		.759 (2.136)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		Excluded
Sub-region					-19.290 (.000)		-18.923 (.000)
Same Continent					-19.340 (.000)		-20.498 (.000)
Elsewhere					-.074 (.929)		-.512 (.599)
Third Party Involvement							
USA Involvement						.411 (1.508)	1.039 (2.827)
USSR/Russia Involvement						1.039 (2.827)	2.258* (9.565)
Global Org. Involvement						.231 (1.259)	.120 (1.128)
Reg./Sec. Org. Involv.						-.714 (.490)	-.128 (.880)
Constant	-2.924	-1.535	-2.987		-2.472	-2.835	-2.664
Nagelkerke R-Square	.021	.315	.038		.185	.084	.562
N	123	123	123		123	123	123

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Table 19: Coefficients and (Odds Ratios) for Logistic Regression of Definitive Outcomes in Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	.408** (1.504)	.234 (1.263)	.427** (1.533)	.391* (1.478)	.293* (1.341)	.370* (1.447)	.183 (1.201)
System Polarity							
Multipolarity		1.117 (3.055)					1.371* (3.940)
World War II		2.705** (14.960)					3.056** (21.238)
Bipolarity		.376 (1.457)					.389 (1.476)
Polycentrism		.217 (1.242)					.299 (1.348)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			-.208 (.812)				-.189 (.828)
Military Regime			.412 (1.510)				.439 (1.551)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				.179 (1.195)			.661 (1.936)
Minor Clashes				.091 (1.096)			.540 (1.716)
Serious Clashes				-.179 (.836)			.370 (1.448)
Full War				excluded			excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					-.320 (.726)		-.595 (.552)
Africa					-.337 (.714)		-.410 (.664)
Europe					.098 (1.103)		-.545 (.580)
Americas					.242 (1.274)		-.141 (.868)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					-.083 (.920)		-.267 (.766)
Same Continent					.790 (2.204)		.525 (1.691)
Elsewhere					.642 (1.901)		.415 (1.514)
Third Party Involvement							
USA Involvement						.052 (1.054)	.126 (1.134)
USSR/Russia Involvement						.113 (1.120)	.042 (1.043)
Global Org. Involvement						-.387 (.679)	-.003 (.997)
Reg./Sec. Org. Involv.						-.229 (.795)	.065 (1.067)
Constant	-.785	-.875	-.809	-.774	-.476	-.467	-.640
Nagelkerke R-Square	.039	.146	.055	.045	.071	.060	.194
N	253	253	253	253	253	253	253

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Table 20: Coefficients and (Odds Ratios) for Logistic Regression of Definitive Outcomes in Non-Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	.117 (1.194)	.062 (1.064)	.144 (1.155)	.133 (1.142)	.190 (1.209)	.041 (1.042)	.080 (.923)
System Polarity							
Multipolarity		1.135* (3.112)					1.395* (4.035)
World War II		1.814* (6.134)					1.771 (5.879)
Bipolarity		.919 (2.508)					1.126 (3.084)
Polycentrism		.624 (1.866)					.878 (2.407)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			.466 (1.594)				.742 (2.100)
Military Regime			-.169 (.844)				.204 (1.226)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				-.994 (.370)			-1.334* (.263)
Minor Clashes				-1.512* (.220)			-1.676* (.187)
Serious Clashes				-.657 (.518)			-.611 (.543)
Full War				excluded			excluded
Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					-.778 (.455)		-.585 (.557)
Africa					.078 (1.082)		.821 (2.272)
Europe					.302 (1.352)		.632 (1.881)
Americas					-.055 (.946)		.701 (2.016)

Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.109 (1.115)		.075 (1.078)
Same Continent					1.095 (2.988)		.850 (2.340)
Elsewhere					.733 (2.081)		1.236 (3.442)
Third Party Involvement							
USA Involvement						.155 (1.168)	.260 (1.297)
USSR/Russia Involvement						.578 (1.783)	.685 (1.984)
Global Org. Involvement						-.517 (.596)	-.567 (.567)
Reg./Sec. Org. Involv.						-.039 (.962)	-.061 (.940)
Constant	.015	-.494	-.069	1.139	-.129	.253	-.292
Nagelkerke R-Square	.006	.051	.029	.066	.069	.044	.225
N	212	212	212	212	212	212	212

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Table 21: Coefficients and (Odds Ratios) for Logistic Regression of Increased Tension Following Crisis in Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	-.226 (.798)	-.276 (.759)	-.222 (.801)	-.304 (.738)	.108 (.897)	-.152 (.859)	-.127 (.881)
System Polarity							
Multipolarity		-1.497 (.224)					-.539 (.583)
World War II		-.771 (.463)					-.371 (.690)
Bipolarity		-2.488** (.083)					-2.680** (.069)
Polycentrism		-1.410 (.244)					-1.741* (.175)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			.076 (1.079)				-.589 (.555)
Military Regime			.400 (1.492)				-.482 (.617)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				-.740* (.477)			-.421 (.657)
Minor Clashes				-1.239** (.290)			-1.242* (.289)
Serious Clashes				-.571 (.565)			-.725 (.484)
Full War				excluded			excluded

Geography							
Geographic Location of Crisis							
Middle East					excluded		Excluded
Asia					-.091 (.913)		.216 (1.242)
Africa					.574 (1.775)		.766 (2.152)
Europe					-.767 (.464)		-1.416** (.243)
Americas					-1.789** (.167)		-1.760* (.172)
Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.334 (1.396)		-.017 (.983)
Same Continent					.720 (2.055)		.999 (2.717)
Elsewhere					.449 (1.566)		.135 (1.144)
Third Party Involvement							
USA Involvement						.028 (1.029)	.090 (1.094)
USSR/Russia Involvement						.556* (1.743)	.842* (2.320)
Global Org. Involvement						.399 (1.490)	.650 (1.916)
Reg./Sec. Org. Involv.						.210 (1.234)	.468 (1.597)
Constant	.892	2.571	.774	1.696	.667	.151	2.367
Nagelkerke R-Square	.012	.129	.019	.064	.116	.042	.303
N	246	246	246	246	246	246	246

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Table 22: Coefficients and (Odds Ratios) for Logistic Regression of Increased Tension Following Crisis in Non-Protracted Conflict Crises with Independent Variable: Decision Maker Stress (Odds ratios marked by parentheses).

	I	II	III	IV	V	VI	VII
Stress	.417* (1.517)	.475* (1.607)	.433* (1.543)	.395* (1.485)	.411 (1.508)	.519* (1.680)	.717** (2.048)
System Polarity							
Multipolarity		-.248 (.780)					-.097 (.907)
World War II		-.684 (.505)					-.772 (.462)
Bipolarity		-2.321*** (.098)					-1.990* (.137)
Polycentrism		-1.663* (.190)					-.945 (.389)
Unipolarity		excluded					excluded
Political Regime							
Civ. Auth. Regime			-.298 (.742)				-.432 (.649)
Military Regime			-.407 (.666)				-.730 (.482)
Dem. Reg.			excluded				excluded
Violence Associated with Crisis Actor							
No Violence				.246 (1.279)			1.057 (2.879)
Minor Clashes				-.411 (.663)			.114 (1.121)
Serious Clashes				-.333 (.717)			-.102 (.903)
Full War				excluded			excluded

Geography							
Geographic Location of Crisis							
Middle East					excluded		excluded
Asia					.180 (1.198)		-.082 (.921)
Africa					-.102 (.903)		-.212 (.809)
Europe					-.440 (.644)		-1.724* (.178)
Americas					-.998 (.369)		-1.126 (.324)
Distance of Crisis Actor from Crisis Location							
Home Terr.					excluded		excluded
Sub-region					.192 (1.212)		.069 (1.072)
Same Continent					1.370* (3.934)		1.420* (4.139)
Elsewhere					.086 (1.090)		-.439 (.645)
Third Party Involvement							
USA Involvement						-.601 (.548)	-.359 (.698)
USSR/Russia Involvement						-.092 (.912)	-.114 (.892)
Global Org. Involvement						-.378 (.686)	-.296 (.744)
Reg./Sec. Org. Involv.						.042 (1.043)	.234 (1.264)
Constant	-1.887	-1.316	-1.717	-1.741	-1.771	-1.650	-1.050
Nagelkerke R-Square	.033	.095	.040	.057	.086	.074	.220
N	207	207	207	207	207	207	207

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$